

# SEQUENCE LISTING

<110> Nichols, Timothy C.  
Malouf, Nadia  
5 Merricks, Elizabeth

<120> Purified and Isolated Platelet Calcium Channel Nucleic Acids and  
Polypeptides and Therapeutic and Screening Methods Using Same

10 <130> 421/29/2/2

<150> US 09/029,413  
<151> 2001-12-20

15 <150> US 60/258,169  
<151> 2000-12-22

<160> 29

20 <170> PatentIn version 3.2

<210> 1  
<211> 5565  
<212> DNA  
25 <213> Homo sapiens

<220>  
<221> CDS  
30 <222> (1)..(5565)

<400> 1  
atg gag cca tcc tca ccc cag gat gaa ggc ctg agg aag aaa cag ccc 48  
Met Glu Pro Ser Ser Pro Gln Asp Glu Gly Leu Arg Lys Lys Gln Pro  
35 1 5 10 15

aag aag cca gtt cct gag att ctg cca agg cca ccc cgg gct ttg ttc 96  
Lys Lys Pro Val Pro Glu Ile Leu Pro Arg Pro Pro Arg Ala Leu Phe  
20 25 30

40 tgc ctg acc ctg gag aac ccc ctg agg aag gcc tgc atc agc att gta 144  
Cys Leu Thr Leu Glu Asn Pro Leu Arg Lys Ala Cys Ile Ser Ile Val  
35 40 45

45 gaa tgg aag ccc ttc gag acg atc atc ttg ctc acc atc ttt gcc aat 192  
Glu Trp Lys Pro Phe Glu Thr Ile Ile Leu Leu Thr Ile Phe Ala Asn  
50 55 60

tgt gtg gcc ctg gcc gtg tac ctg ccc atg ccg gaa gat gac aac aac 240  
Cys Val Ala Leu Ala Val Tyr Leu Pro Met Pro Glu Asp Asp Asn Asn  
65 70 75 80

tct ctg aac ctc ggc ctg gag aag ctg gag tat ttc ttc ctc att gtc 288  
Ser Leu Asn Leu Gly Leu Glu Lys Leu Glu Tyr Phe Phe Leu Ile Val  
55 85 90 95

ttc tcg att gaa gcc gcc atg aag atc att gcc tac ggc ttc tta ttc 336  
Phe Ser Ile Glu Ala Ala Met Lys Ile Ile Ala Tyr Gly Phe Leu Phe  
100 105 110

60 cac cag gac gct tac ctg cgc agt ggc tgg aat gtg ctg gac ttc acc 384  
His Gln Asp Ala Tyr Leu Arg Ser Gly Trp Asn Val Leu Asp Phe Thr  
115 120 125

	att gtc ttc ctg ggg gtc ttc acc gtg att ctg gaa cag gtt aac gtc	432
	Ile Val Phe Leu Gly Val Phe Thr Val Ile Leu Glu Gln Val Asn Val	
5	130 135 140	
	atc caa agc cac aca gcc cca atg agc agc aaa gga gcc ggc ttg gat	480
	Ile Gln Ser His Thr Ala Pro Met Ser Ser Lys Gly Ala Gly Leu Asp	
	145 150 155 160	
10	gtc aag gcc ctg aga gcc ttc cga gtg ctg aga ccc ctg cgg ctg gtg	528
	Val Lys Ala Leu Arg Ala Phe Arg Val Leu Arg Pro Leu Arg Leu Val	
	165 170 175	
15	tcg ggg gtg cct agc ctg cag gtg gtc ctg aac tcc atc ttc aag gcc	576
	Ser Gly Val Pro Ser Leu Gln Val Val Leu Asn Ser Ile Phe Lys Ala	
	180 185 190	
20	atg ctg ccc ctg ttt cac atc gcc ctg ctg gtc ctg ttt atg gtc atc	624
	Met Leu Pro Leu Phe His Ile Ala Leu Leu Val Leu Phe Met Val Ile	
	195 200 205	
25	atc tat gcc atc atc ggg ctg gag ctg ttc aag ggc aag atg cac aag	672
	Ile Tyr Ala Ile Ile Gly Leu Glu Leu Phe Lys Gly Lys Met His Lys	
	210 215 220	
	acc tgc tac ttc att ggt aca gat atc gtg gcc acg gtg gag aat gaa	720
	Thr Cys Tyr Phe Ile Gly Thr Asp Ile Val Ala Thr Val Glu Asn Glu	
	225 230 235 240	
30	gag cca tcg ccc tgc gcc agg acg ggc tca ggg cgc cgg tgc acc atc	768
	Glu Pro Ser Pro Cys Ala Arg Thr Gly Ser Gly Arg Arg Cys Thr Ile	
	245 250 255	
35	aat ggc agt gag tgc cgg ggc ggc tgc cca ggg ccc aac cat ggc atc	816
	Asn Gly Ser Glu Cys Arg Gly Gly Cys Pro Gly Pro Asn His Gly Ile	
	260 265 270	
40	acc cac ttc gac aac ttc ggc ttc tcc atg ctg acc gtg tac cag tgc	864
	Thr His Phe Asp Asn Phe Gly Phe Ser Met Leu Thr Val Tyr Gln Cys	
	275 280 285	
45	att acc atg gag gga tgg act gac gtc ctt tac tgg gtc aat gat gcc	912
	Ile Thr Met Glu Gly Trp Thr Asp Val Leu Tyr Trp Val Asn Asp Ala	
	290 295 300	
	atc ggg aat gag tgg ccc tgg atc tat ttt gtc acc ctg att ttg ctg	960
	Ile Gly Asn Glu Trp Pro Trp Ile Tyr Phe Val Thr Leu Ile Leu Leu	
	305 310 315 320	
50	gga tcc ttc ttc atc ctg aac ctg gtg ctg ggt gtc ctg agt ggg gaa	1008
	Gly Ser Phe Phe Ile Leu Asn Leu Val Leu Gly Val Leu Ser Gly Glu	
	325 330 335	
55	ttc acc aag gag cgg gag aag gcc aag tcc agg gga acc ttc cag aag	1056
	Phe Thr Lys Glu Arg Glu Lys Ala Lys Ser Arg Gly Thr Phe Gln Lys	
	340 345 350	
60	ctc cgg gag aag cag caa cta gat gag gac ctt cgg ggc tac atg agc	1104
	Leu Arg Glu Lys Gln Gln Leu Asp Glu Asp Leu Arg Gly Tyr Met Ser	
	355 360 365	
	tgg atc acg cag ggc gag gtc atg gat gtt gag gac ttc aga gaa gga	1152
	Trp Ile Thr Gln Gly Glu Val Met Asp Val Glu Asp Phe Arg Glu Gly	
	370 375 380	

	aaa ctg tct ttg gat gaa ggt ggc tct gac aca gag agc ctg tat gaa	1200
	Lys Leu Ser Leu Asp Glu Gly Gly Ser Asp Thr Glu Ser Leu Tyr Glu	
	385 390 395 400	
5		
	att gca ggc ttg aac aaa atc atc cag ttc atc cga cat tgg agg cag	1248
	Ile Ala Gly Leu Asn Lys Ile Ile Gln Phe Ile Arg His Trp Arg Gln	
	405 410 415	
10		
	tgg aac cgc atc ttt cgc tgg aag tgc cat gac atc gtg aag tcc aag	1296
	Trp Asn Arg Ile Phe Arg Trp Lys Cys His Asp Ile Val Lys Ser Lys	
	420 425 430	
15		
	gtc ttc tat tgg ctg gtg att ctc atc gtt gcc ctc aac acc ctg tct	1344
	Val Phe Tyr Trp Leu Val Ile Leu Ile Val Ala Leu Asn Thr Leu Ser	
	435 440 445	
20		
	atc gcc tca gag cac cac aac cag ccg cac tgg ctg acc cgt ttg caa	1392
	Ile Ala Ser Glu His His Asn Gln Pro His Trp Leu Thr Arg Leu Gln	
	450 455 460	
25		
	gac att gcc aac cgg gtg ctg ctg tcc ctc ttc acc act gag atg ctg	1440
	Asp Ile Ala Asn Arg Val Leu Leu Ser Leu Phe Thr Thr Glu Met Leu	
	465 470 475 480	
	atg aag atg tac ggg ctg ggc ctg cgc cag tac ttc atg tct atc ttc	1488
	Met Lys Met Tyr Gly Leu Gly Leu Arg Gln Tyr Phe Met Ser Ile Phe	
	485 490 495	
30		
	aac cgc ttc gac tgc ttc gtg gtg tgc agc ggt atc ctg gag atc ctg	1536
	Asn Arg Phe Asp Cys Phe Val Val Cys Ser Gly Ile Leu Glu Ile Leu	
	500 505 510	
35		
	ctg gtg gag tcg ggc gcc atg aca ccc ctg ggc atc tcc gtg ctc cgc	1584
	Leu Val Glu Ser Gly Ala Met Thr Pro Leu Gly Ile Ser Val Leu Arg	
	515 520 525	
40		
	tgc atc cgc ctc ctg agg atc ttc aag atc acc aaa tat tgg acg tcg	1632
	Cys Ile Arg Leu Leu Arg Ile Phe Lys Ile Thr Lys Tyr Trp Thr Ser	
	530 535 540	
45		
	ctg agc aac ctg gtg gca tcc ctg ctc aac tcc atc cgc tcc atc gcc	1680
	Leu Ser Asn Leu Val Ala Ser Leu Leu Asn Ser Ile Arg Ser Ile Ala	
	545 550 555 560	
	tcc ctg ctg ctg ctg ctc ttc ctc ttc atc gtc atc ttc cgc ctc ctg	1728
	Ser Leu Leu Leu Leu Leu Phe Leu Phe Ile Val Ile Phe Arg Leu Leu	
	565 570 575	
50		
	ggc atg cag ctc ttt ggg ggg agg tat gac ttt gaa gac aca gaa gta	1776
	Gly Met Gln Leu Phe Gly Gly Arg Tyr Asp Phe Glu Asp Thr Glu Val	
	580 585 590	
55		
	cgg cgc agc aac ttt gac aac ttt ccc caa gcc ctc atc agc gtc ttc	1824
	Arg Arg Ser Asn Phe Asp Asn Phe Pro Gln Ala Leu Ile Ser Val Phe	
	595 600 605	
60		
	cag gta ctg aca ggg gaa gac tgg acc tca atg atg tac aat ggg atc	1872
	Gln Val Leu Thr Gly Glu Asp Trp Thr Ser Met Met Tyr Asn Gly Ile	
	610 615 620	
	atg gcc tcg agc ggg ccg tcc tac cct ggc atg ctt gtg tgc att tac	1920
	Met Ala Ser Ser Gly Pro Ser Tyr Pro Gly Met Leu Val Cys Ile Tyr	
	625 630 635 640	

	ttc atc atc ctt ttc gtc tgt ggc aac tac atc ctg ctc aat gtc ttc	1968
	Phe Ile Ile Leu Phe Val Cys Gly Asn Tyr Ile Leu Leu Asn Val Phe	
	645 650 655	
5	ctg gcc att gcc gtg gac aac ctg gcc gag gcg gag agc ctg act tct	2016
	Leu Ala Ile Ala Val Asp Asn Leu Ala Glu Ala Glu Ser Leu Thr Ser	
	660 665 670	
10	gcc cag aag gcc aag gct gag gag aaa aaa cgc agg aag atg tcc aag	2064
	Ala Gln Lys Ala Lys Ala Glu Glu Lys Lys Arg Arg Lys Met Ser Lys	
	675 680 685	
15	ggc ctc cca gac aag tca gaa gag gag aag tca acg atg gcc aag aag	2112
	Gly Leu Pro Asp Lys Ser Glu Glu Glu Lys Ser Thr Met Ala Lys Lys	
	690 695 700	
20	ctg gag cag aaa ccc aag ggt gag ggc atc ccc acc act gcc aag ctg	2160
	Leu Glu Gln Lys Pro Lys Gly Glu Gly Ile Pro Thr Thr Ala Lys Leu	
	705 710 715 720	
	aaa atc gat gag ttt gaa tct aat gtc aat gag gtg aag gat ccc tac	2208
	Lys Ile Asp Glu Phe Glu Ser Asn Val Asn Glu Val Lys Asp Pro Tyr	
	725 730 735	
25	ccc tca gcc gac ttc cca ggg gat gac gag gaa gat gag cct gag atc	2256
	Pro Ser Ala Asp Phe Pro Gly Asp Asp Glu Glu Asp Glu Pro Glu Ile	
	740 745 750	
30	ccg ctg agc ccc cga cca cgt ccc ctg gct gag ctg cag ctg aaa gag	2304
	Pro Leu Ser Pro Arg Pro Arg Pro Leu Ala Glu Leu Gln Leu Lys Glu	
	755 760 765	
35	aag gcc gtg ccc att cca gaa gcc agc tcc ttc ttc atc ttc agc ccc	2352
	Lys Ala Val Pro Ile Pro Glu Ala Ser Ser Phe Phe Ile Phe Ser Pro	
	770 775 780	
40	acc aat aag atc cgt gtc ctg tgt cac cgc atc gtc aat gcc acc tgg	2400
	Thr Asn Lys Ile Arg Val Leu Cys His Arg Ile Val Asn Ala Thr Trp	
	785 790 795 800	
	ttc acc aac ttc atc ctg ctc ttc atc ctg ctc agc agc gct gca ctg	2448
	Phe Thr Asn Phe Ile Leu Leu Phe Ile Leu Leu Ser Ser Ala Ala Leu	
	805 810 815	
45	gct gcg gaa gac ccc atc cgg gct gat tcc atg aga aat cag atc ctt	2496
	Ala Ala Glu Asp Pro Ile Arg Ala Asp Ser Met Arg Asn Gln Ile Leu	
	820 825 830	
50	aaa cac ttt gac atc ggg ttc acc tct gtc ttc act gtg gag att gtc	2544
	Lys His Phe Asp Ile Gly Phe Thr Ser Val Phe Thr Val Glu Ile Val	
	835 840 845	
55	ctc aag atg acg acc tac gga gcc ttc ctg cac aag ggt tcc ttc tgc	2592
	Leu Lys Met Thr Thr Tyr Gly Ala Phe Leu His Lys Gly Ser Phe Cys	
	850 855 860	
60	cgc aat tac ttc aac atg ctg gac ctg ctg gtg gtg gcc gtg tcc ctc	2640
	Arg Asn Tyr Phe Asn Met Leu Asp Leu Leu Val Val Ala Val Ser Leu	
	865 870 875 880	
	atc tcc atg gga ctt gag tcc agt gcc atc tcc gtg gtg aag atc ctg	2688
	Ile Ser Met Gly Leu Glu Ser Ser Ala Ile Ser Val Val Lys Ile Leu	
	885 890 895	

	agg	gtg	ctg	agg	gtg	ctc	cga	cca	ctc	aga	gcc	atc	aac	aga	gcc	aag	2736
	Arg	Val	Leu	Arg	Val	Leu	Arg	Pro	Leu	Arg	Ala	Ile	Asn	Arg	Ala	Lys	
				900					905						910		
5	ggg	ttg	aag	cac	gtg	gct	agg	tgc	atg	ttc	gtg	gcc	atc	agc	acc	atc	2784
	Gly	Leu	Lys	His	Val	Ala	Arg	Cys	Met	Phe	Val	Ala	Ile	Ser	Thr	Ile	
			915					920					925				
10	ggg	aac	atc	gtg	ctg	gtc	act	acc	ctc	cta	cag	ttc	atg	ttt	gcc	tgc	2832
	Gly	Asn	Ile	Val	Leu	Val	Thr	Thr	Leu	Leu	Gln	Phe	Met	Phe	Ala	Cys	
		930					935					940					
15	atc	ggc	gtc	cag	ctc	ttc	aag	ggg	aag	ttc	ttc	agg	tgc	acc	gac	ttg	2880
	Ile	Gly	Val	Gln	Leu	Phe	Lys	Gly	Lys	Phe	Phe	Arg	Cys	Thr	Asp	Leu	
	945					950					955					960	
20	tcc	aag	atg	aca	gag	gag	gag	tgc	agg	ggc	tac	tac	tac	gtg	tac	aag	2928
	Ser	Lys	Met	Thr	Glu	Glu	Cys	Arg	Gly	Tyr	Tyr	Tyr	Tyr	Val	Tyr	Lys	
					965				970						975		
25	gac	ggg	gac	ccc	atg	cag	ata	gag	ctg	cgt	cac	cgc	gag	tgg	gta	cac	2976
	Asp	Gly	Asp	Pro	Met	Gln	Ile	Glu	Leu	Arg	His	Arg	Glu	Trp	Val	His	
				980					985					990			
30	agc	gac	ttc	cac	ttc	gac	aat	gtg	ctc	tca	gcc	atg	atg	tcc	ctc	ttc	3024
	Ser	Asp	Phe	His	Phe	Asp	Asn	Val	Leu	Ser	Ala	Met	Met	Ser	Leu	Phe	
			995					1000					1005				
35	acg	gtc	tcc	acc	ttc	gag	gga	tgg	cct	cag	ctg	ctg	tac	aag	gcc		3069
	Thr	Val	Ser	Thr	Phe	Glu	Gly	Trp	Pro	Gln	Leu	Leu	Tyr	Lys	Ala		
		1010					1015					1020					
40	ata	gac	tcc	aat	gcg	gag	gac	gtg	ggt	ccc	atc	tac	aac	aac	cgt		3114
	Ile	Asp	Ser	Asn	Ala	Glu	Asp	Val	Gly	Pro	Ile	Tyr	Asn	Asn	Arg		
		1025					1030					1035					
45	gtg	gag	atg	gcc	atc	ttc	ttc	atc	atc	tac	atc	atc	ctc	att	gcc		3159
	Val	Glu	Met	Ala	Ile	Phe	Phe	Ile	Ile	Tyr	Ile	Ile	Leu	Ile	Ala		
		1040					1045					1050					
50	ttc	ttc	atg	atg	aac	atc	ttt	gtg	ggc	ttc	gtc	att	gtc	acc	ttc		3204
	Phe	Phe	Met	Met	Asn	Ile	Phe	Val	Gly	Phe	Val	Ile	Val	Thr	Phe		
		1055					1060					1065					
55	cag	gag	cag	gga	gag	act	gag	tac	aag	aac	tgt	gag	ctg	gac	aag		3249
	Gln	Glu	Gln	Gly	Glu	Thr	Glu	Tyr	Lys	Asn	Cys	Glu	Leu	Asp	Lys		
		1070					1075					1080					
60	aac	cag	cgc	caa	tgt	gta	cag	tat	gcc	ctg	aag	gcc	cgc	cca	ctg		3294
	Asn	Gln	Arg	Gln	Cys	Val	Gln	Tyr	Ala	Leu	Lys	Ala	Arg	Pro	Leu		
		1085					1090					1095					
65	agg	tgc	tac	att	ccc	aaa	aac	cca	tac	cag	tac	cag	gtg	tgg	tac		3339
	Arg	Cys	Tyr	Ile	Pro	Lys	Asn	Pro	Tyr	Gln	Tyr	Gln	Val	Trp	Tyr		
		1100					1105					1110					
70	att	gtc	acc	tcc	tcc	tac	ttt	gaa	tac	ctg	atg	ttt	gcc	ctc	atc		3384
	Ile	Val	Thr	Ser	Ser	Tyr	Phe	Glu	Tyr	Leu	Met	Phe	Ala	Leu	Ile		
		1115					1120					1125					
75	atg	ctc	aac	acc	atc	tgc	ctc	ggc	atg	cag	cac	tac	aac	cag	tcg		3429
	Met	Leu	Asn	Thr	Ile	Cys	Leu	Gly	Met	Gln	His	Tyr	Asn	Gln	Ser		
		1130					1135					1140					

5	gag cag atg aac cac atc tca gac atc ctc aat gtg gcc ttc act 3474
	Glu Gln Met Asn His Ile Ser Asp Ile Leu Asn Val Ala Phe Thr 1145 1150 1155
10	atc atc ttc acc ctg gag atg atc ctc aag ctc atg gcc ttc aag 3519
	Ile Ile Phe Thr Leu Glu Met Ile Leu Lys Leu Met Ala Phe Lys 1160 1165 1170
15	gcc agg ggc tac ttt gga aac ccc tgg aat gtg ttt gac ttc ctg 3564
	Ala Arg Gly Tyr Phe Gly Asn Pro Trp Asn Val Phe Asp Phe Leu 1175 1180 1185
20	att gtc att ggc agc atc att gat gtc atc ctc agt gag atc gac 3609
	Ile Val Ile Gly Ser Ile Ile Asp Val Ile Leu Ser Glu Ile Asp 1190 1195 1200
25	gac cca gat gag agt gcc cgc atc tcc agc gcc ttc ttc cgc ctg 3654
	Asp Pro Asp Glu Ser Ala Arg Ile Ser Ser Ala Phe Phe Arg Leu 1205 1210 1215
30	ttc cgt gtc atg agg ctg atc aag ctg ctg agc cgg gca gaa gga 3699
	Phe Arg Val Met Arg Leu Ile Lys Leu Leu Ser Arg Ala Glu Gly 1220 1225 1230
35	gtg cga acc ctc ctg tgg acg ttc atc aag tcc ttc cag gcc cta 3744
	Val Arg Thr Leu Leu Trp Thr Phe Ile Lys Ser Phe Gln Ala Leu 1235 1240 1245
40	ccc tac gtg gct ctg ctc atc gtc atg ctc ttc ttc atc tac gct 3789
	Pro Tyr Val Ala Leu Leu Ile Val Met Leu Phe Phe Ile Tyr Ala 1250 1255 1260
45	gtc atc ggc atg cag atg ttt ggg aag atc gcc ttg gtg gat ggg 3834
	Val Ile Gly Met Gln Met Phe Gly Lys Ile Ala Leu Val Asp Gly 1265 1270 1275
50	acc caa ata aac cgg aac aac aac ttc cag acc ttc cca caa gct 3879
	Thr Gln Ile Asn Arg Asn Asn Asn Phe Gln Thr Phe Pro Gln Ala 1280 1285 1290
55	gtg cta ctg ctc ttc agg tgt gca aca ggt gag gcc tgg cag gag 3924
	Val Leu Leu Leu Phe Arg Cys Ala Thr Gly Glu Ala Trp Gln Glu 1295 1300 1305
60	atc cta ctg gcc tgc agc tat ggg aag ctg tgt gac cca gag tcg 3969
	Ile Leu Leu Ala Cys Ser Tyr Gly Lys Leu Cys Asp Pro Glu Ser 1310 1315 1320
65	gac tat gcc cca ggg gag gag tac aca tgt ggc acc aac ttt gca 4014
	Asp Tyr Ala Pro Gly Glu Glu Tyr Thr Cys Gly Thr Asn Phe Ala 1325 1330 1335
70	tac tac tac ttc atc agc ttc tac atg ctc tgt gcc ttc ctg gtc 4059
	Tyr Tyr Tyr Phe Ile Ser Phe Tyr Met Leu Cys Ala Phe Leu Val 1340 1345 1350
75	atc aac ctc ttt gtg gct gtc atc atg gac aat ttt gac tac ctc 4104
	Ile Asn Leu Phe Val Ala Val Ile Met Asp Asn Phe Asp Tyr Leu 1355 1360 1365
80	acc cgg gac tgg tcc atc ctg ggc cct cat cac ctg gat gag ttc 4149
	Thr Arg Asp Trp Ser Ile Leu Gly Pro His His Leu Asp Glu Phe 1370 1375 1380

5	aag gcc atc tgg gca gag tat gac cca gag gct aag ggg agg atc	4194
	Lys Ala Ile Trp Ala Glu Tyr Asp Pro Glu Ala Lys Gly Arg Ile	
	1385 1390 1395	
10	aaa cac ctg gac gtg gtg acc ctg ctg aga agg att cag ccc cct	4239
	Lys His Leu Asp Val Val Thr Leu Leu Arg Arg Ile Gln Pro Pro	
	1400 1405 1410	
15	ctg ggc ttt ggg aag ttc tgc cca cat cgg gta gct tgt aag cgg	4284
	Leu Gly Phe Gly Lys Phe Cys Pro His Arg Val Ala Cys Lys Arg	
	1415 1420 1425	
20	ctg gtg ggc atg aac atg ccc ctg aac agc gac ggc aca gtc acc	4329
	Leu Val Gly Met Asn Met Pro Leu Asn Ser Asp Gly Thr Val Thr	
	1430 1435 1440	
25	ttc aat gcc aca ctc ttt gcc ctg gtc cgc acg gca ctc aag atc	4374
	Phe Asn Ala Thr Leu Phe Ala Leu Val Arg Thr Ala Leu Lys Ile	
	1445 1450 1455	
30	aag acg gaa ggt aac ttt gag cag gcc aac gag gag ctg agg gcc	4419
	Lys Thr Glu Gly Asn Phe Glu Gln Ala Asn Glu Glu Leu Arg Ala	
	1460 1465 1470	
35	atc atc aag aag atc tgg aag aga acc agc atg aag ctc ttg gac	4464
	Ile Ile Lys Lys Ile Trp Lys Arg Thr Ser Met Lys Leu Leu Asp	
	1475 1480 1485	
40	cag gtc atc cct cca ata gga gat gat gag gtg aca gtg ggg aag	4509
	Gln Val Ile Pro Pro Ile Gly Asp Asp Glu Val Thr Val Gly Lys	
	1490 1495 1500	
45	ttc tac gcc aca ttc ctc atc cag gag cac ttc cgg aag ttc atg	4554
	Phe Tyr Ala Thr Phe Leu Ile Gln Glu His Phe Arg Lys Phe Met	
	1505 1510 1515	
50	aaa cgc caa gag gag tat tat ggc tat cgg ccc aag aag gac att	4599
	Lys Arg Gln Glu Glu Tyr Tyr Gly Tyr Arg Pro Lys Lys Asp Ile	
	1520 1525 1530	
55	gta cag atc cag gca ggg ctg cgg acc att gag gaa gag gca gcc	4644
	Val Gln Ile Gln Ala Gly Leu Arg Thr Ile Glu Glu Glu Ala Ala	
	1535 1540 1545	
60	ccc gag atc tgt cgc acg gtc tca gga gac ctg gct gct gag gag	4689
	Pro Glu Ile Cys Arg Thr Val Ser Gly Asp Leu Ala Ala Glu Glu	
	1550 1555 1560	
65	gag ctg gag aga gcc atg gtg gag gct gcg atg gag gag ggg ata	4734
	Glu Leu Glu Arg Ala Met Val Glu Ala Ala Met Glu Glu Gly Ile	
	1565 1570 1575	
70	ttc cgg agg act gga ggc ctg ttt ggc cag gtg gac aac ttc ctg	4779
	Phe Arg Arg Thr Gly Gly Leu Phe Gly Gln Val Asp Asn Phe Leu	
	1580 1585 1590	
75	gaa agg acc aac tcc ctg ccc cct gtc atg gcc aat cag aga ccc	4824
	Glu Arg Thr Asn Ser Leu Pro Pro Val Met Ala Asn Gln Arg Pro	
	1595 1600 1605	
80	ctc cag ttt gct gag ata gag atg gaa gag atg gag tca cct gtc	4869
	Leu Gln Phe Ala Glu Ile Glu Met Glu Glu Met Glu Ser Pro Val	
	1610 1615 1620	

5	ttc	ttg	gag	gac	ttc	cca	caa	gat	cca	cgc	acc	aac	ccc	ctg	gct	4914
	Phe	Leu	Glu	Asp	Phe	Pro	Gln	Asp	Pro	Arg	Thr	Asn	Pro	Leu	Ala	
	1625						1630					1635				
	cgt	gcc	aat	acc	aac	aat	gcc	aac	gcc	aat	gtc	gcc	tat	gcg	aac	4959
	Arg	Ala	Asn	Thr	Asn	Asn	Ala	Asn	Ala	Asn	Val	Ala	Tyr	Ala	Asn	
	1640						1645					1650				
10	agc	aac	cat	agc	aac	agc	cat	gtg	ttt	tcc	agt	gtc	cac	tat	gaa	5004
	Ser	Asn	His	Ser	Asn	Ser	His	Val	Phe	Ser	Ser	Val	His	Tyr	Glu	
	1655						1660					1665				
15	agg	gag	ttc	cca	gaa	gag	aca	gag	acg	cct	gct	acc	aga	gga	cga	5049
	Arg	Glu	Phe	Pro	Glu	Glu	Thr	Glu	Thr	Pro	Ala	Thr	Arg	Gly	Arg	
	1670						1675					1680				
20	gcc	ctt	ggc	caa	ccc	tgc	agg	tcc	ctg	gga	ccc	cac	agc	aaa	ccc	5094
	Ala	Leu	Gly	Gln	Pro	Cys	Arg	Ser	Leu	Gly	Pro	His	Ser	Lys	Pro	
	1685						1690					1695				
25	tgt	gtg	gag	atg	ctg	aag	gga	ctg	ctg	acc	cag	agg	gca	atg	ccc	5139
	Cys	Val	Glu	Met	Leu	Lys	Gly	Leu	Leu	Thr	Gln	Arg	Ala	Met	Pro	
	1700						1705					1710				
	aga	ggc	cag	gca	cct	cct	gcc	ccc	tgc	cag	tgc	ccc	agg	gtg	gag	5184
	Arg	Gly	Gln	Ala	Pro	Pro	Ala	Pro	Cys	Gln	Cys	Pro	Arg	Val	Glu	
	1715						1720					1725				
30	tcc	tcc	atg	cct	gag	gac	aga	aag	agc	tcc	aca	cca	ggg	tct	ctt	5229
	Ser	Ser	Met	Pro	Glu	Asp	Arg	Lys	Ser	Ser	Thr	Pro	Gly	Ser	Leu	
	1730						1735					1740				
35	cat	gag	gag	aca	ccc	cac	agc	agg	agc	acc	agg	gag	aat	act	tcc	5274
	His	Glu	Glu	Thr	Pro	His	Ser	Arg	Ser	Thr	Arg	Glu	Asn	Thr	Ser	
	1745						1750					1755				
40	agg	tgc	tca	gca	cca	gct	aca	gcc	ctg	ctg	atc	caa	aag	gct	ctg	5319
	Arg	Cys	Ser	Ala	Pro	Ala	Thr	Ala	Leu	Leu	Ile	Gln	Lys	Ala	Leu	
	1760						1765					1770				
45	gtt	cga	ggg	ggc	ctg	ggc	acc	ttg	gca	gct	gat	gca	aac	ttc	atc	5364
	Val	Arg	Gly	Gly	Leu	Gly	Thr	Leu	Ala	Ala	Asp	Ala	Asn	Phe	Ile	
	1775						1780					1785				
50	atg	gca	aca	ggc	cag	gcc	ctc	gga	gat	gcc	tgc	caa	atg	gaa	cca	5409
	Met	Ala	Thr	Gly	Gln	Ala	Leu	Gly	Asp	Ala	Cys	Gln	Met	Glu	Pro	
	1790						1795					1800				
55	gag	gaa	gtg	gag	atc	atg	gca	aca	gag	cta	ctg	aaa	gga	cga	gag	5454
	Glu	Glu	Val	Glu	Ile	Met	Ala	Thr	Glu	Leu	Leu	Lys	Gly	Arg	Glu	
	1805						1810					1815				
55	gcc	cca	gac	ggc	atg	gcc	agc	tcc	ctg	gga	tgc	ctg	aac	ctc	ggg	5499
	Ala	Pro	Asp	Gly	Met	Ala	Ser	Ser	Leu	Gly	Cys	Leu	Asn	Leu	Gly	
	1820						1825					1830				
60	tcc	tcc	ctg	ggc	agc	ctc	gac	caa	cac	cag	ggc	tcc	cag	gag	acc	5544
	Ser	Ser	Leu	Gly	Ser	Leu	Asp	Gln	His	Gln	Gly	Ser	Gln	Glu	Thr	
	1835						1840					1845				
60	ctt	att	cct	cca	agg	ctg	tga									5565
	Leu	Ile	Pro	Pro	Arg	Leu										
	1850															



```

<210> 2
<211> 1854
5 <212> PRT
   <213> Homo sapiens

<400> 2

10 Met Glu Pro Ser Ser Pro Gln Asp Glu Gly Leu Arg Lys Lys Gln Pro
   1          5          10          15

   Lys Lys Pro Val Pro Glu Ile Leu Pro Arg Pro Pro Arg Ala Leu Phe
   20          25          30

15 Cys Leu Thr Leu Glu Asn Pro Leu Arg Lys Ala Cys Ile Ser Ile Val
   35          40          45

   Glu Trp Lys Pro Phe Glu Thr Ile Ile Leu Leu Thr Ile Phe Ala Asn
   50          55          60

   Cys Val Ala Leu Ala Val Tyr Leu Pro Met Pro Glu Asp Asp Asn Asn
   65          70          75          80

25 Ser Leu Asn Leu Gly Leu Glu Lys Leu Glu Tyr Phe Phe Leu Ile Val
   85          90          95

   Phe Ser Ile Glu Ala Ala Met Lys Ile Ile Ala Tyr Gly Phe Leu Phe
   100         105         110

30 His Gln Asp Ala Tyr Leu Arg Ser Gly Trp Asn Val Leu Asp Phe Thr
   115         120         125

   Ile Val Phe Leu Gly Val Phe Thr Val Ile Leu Glu Gln Val Asn Val
   130         135         140

   Ile Gln Ser His Thr Ala Pro Met Ser Ser Lys Gly Ala Gly Leu Asp
   145         150         155         160

40 Val Lys Ala Leu Arg Ala Phe Arg Val Leu Arg Pro Leu Arg Leu Val
   165         170         175

   Ser Gly Val Pro Ser Leu Gln Val Val Leu Asn Ser Ile Phe Lys Ala
   180         185         190

45 Met Leu Pro Leu Phe His Ile Ala Leu Leu Val Leu Phe Met Val Ile
   195         200         205

   Ile Tyr Ala Ile Ile Gly Leu Glu Leu Phe Lys Gly Lys Met His Lys
   210         215         220

   Thr Cys Tyr Phe Ile Gly Thr Asp Ile Val Ala Thr Val Glu Asn Glu
   225         230         235         240

55 Glu Pro Ser Pro Cys Ala Arg Thr Gly Ser Gly Arg Arg Cys Thr Ile
   245         250         255

   Asn Gly Ser Glu Cys Arg Gly Gly Cys Pro Gly Pro Asn His Gly Ile
   260         265         270

60 Thr His Phe Asp Asn Phe Gly Phe Ser Met Leu Thr Val Tyr Gln Cys
   275         280         285

   Ile Thr Met Glu Gly Trp Thr Asp Val Leu Tyr Trp Val Asn Asp Ala

```

		290				295				300						
		Ile Gly Asn Glu Trp	Pro Trp Ile Tyr Phe Val Thr Leu Ile Leu Leu													
		305			310				315							320
5		Gly Ser Phe Phe Ile Leu Asn Leu Val	Leu Gly Val Leu Ser Gly Glu													
			325					330							335	
		Phe Thr Lys Glu Arg Glu Lys Ala Lys Ser Arg Gly Thr Phe Gln Lys														
			340					345						350		
10		Leu Arg Glu Lys Gln Gln Leu Asp Glu Asp Leu Arg Gly Tyr Met Ser														
			355				360					365				
		Trp Ile Thr Gln Gly Glu Val Met Asp Val Glu Asp Phe Arg Glu Gly														
15			370			375				380						
		Lys Leu Ser Leu Asp Glu Gly Gly Ser Asp Thr Glu Ser Leu Tyr Glu														
			385			390				395						400
20		Ile Ala Gly Leu Asn Lys Ile Ile Gln Phe Ile Arg His Trp Arg Gln														
				405					410							415
		Trp Asn Arg Ile Phe Arg Trp Lys Cys His Asp Ile Val Lys Ser Lys														
				420				425							430	
25		Val Phe Tyr Trp Leu Val Ile Leu Ile Val Ala Leu Asn Thr Leu Ser														
			435				440							445		
		Ile Ala Ser Glu His His Asn Gln Pro His Trp Leu Thr Arg Leu Gln														
30			450			455				460						
		Asp Ile Ala Asn Arg Val Leu Leu Ser Leu Phe Thr Thr Glu Met Leu														
			465			470				475						480
35		Met Lys Met Tyr Gly Leu Gly Leu Arg Gln Tyr Phe Met Ser Ile Phe														
				485					490							495
		Asn Arg Phe Asp Cys Phe Val Val Cys Ser Gly Ile Leu Glu Ile Leu														
				500				505							510	
40		Leu Val Glu Ser Gly Ala Met Thr Pro Leu Gly Ile Ser Val Leu Arg														
			515				520							525		
		Cys Ile Arg Leu Leu Arg Ile Phe Lys Ile Thr Lys Tyr Trp Thr Ser														
45			530			535				540						
		Leu Ser Asn Leu Val Ala Ser Leu Leu Asn Ser Ile Arg Ser Ile Ala														
			545			550				555						560
50		Ser Leu Leu Leu Leu Leu Phe Leu Phe Ile Val Ile Phe Arg Leu Leu														
				565					570							575
		Gly Met Gln Leu Phe Gly Gly Arg Tyr Asp Phe Glu Asp Thr Glu Val														
				580				585							590	
55		Arg Arg Ser Asn Phe Asp Asn Phe Pro Gln Ala Leu Ile Ser Val Phe														
			595				600							605		
		Gln Val Leu Thr Gly Glu Asp Trp Thr Ser Met Met Tyr Asn Gly Ile														
60			610			615						620				
		Met Ala Ser Ser Gly Pro Ser Tyr Pro Gly Met Leu Val Cys Ile Tyr														
			625			630				635						640

	Phe	Ile	Ile	Leu	Phe	Val	Cys	Gly	Asn	Tyr	Ile	Leu	Leu	Asn	Val	Phe	
					645					650					655		
5	Leu	Ala	Ile	Ala	Val	Asp	Asn	Leu	Ala	Glu	Ala	Glu	Ser	Leu	Thr	Ser	
				660					665					670			
	Ala	Gln	Lys	Ala	Lys	Ala	Glu	Glu	Lys	Lys	Arg	Arg	Lys	Met	Ser	Lys	
			675					680					685				
10	Gly	Leu	Pro	Asp	Lys	Ser	Glu	Glu	Glu	Lys	Ser	Thr	Met	Ala	Lys	Lys	
		690					695					700					
	Leu	Glu	Gln	Lys	Pro	Lys	Gly	Glu	Gly	Ile	Pro	Thr	Thr	Ala	Lys	Leu	
15	705					710					715					720	
	Lys	Ile	Asp	Glu	Phe	Glu	Ser	Asn	Val	Asn	Glu	Val	Lys	Asp	Pro	Tyr	
					725					730					735		
20	Pro	Ser	Ala	Asp	Phe	Pro	Gly	Asp	Asp	Glu	Glu	Asp	Glu	Pro	Glu	Ile	
				740					745					750			
	Pro	Leu	Ser	Pro	Arg	Pro	Arg	Pro	Leu	Ala	Glu	Leu	Gln	Leu	Lys	Glu	
25			755					760					765				
	Lys	Ala	Val	Pro	Ile	Pro	Glu	Ala	Ser	Ser	Phe	Phe	Ile	Phe	Ser	Pro	
		770					775					780					
	Thr	Asn	Lys	Ile	Arg	Val	Leu	Cys	His	Arg	Ile	Val	Asn	Ala	Thr	Trp	
30	785				790						795					800	
	Phe	Thr	Asn	Phe	Ile	Leu	Leu	Phe	Ile	Leu	Leu	Ser	Ser	Ala	Ala	Leu	
				805						810					815		
35	Ala	Ala	Glu	Asp	Pro	Ile	Arg	Ala	Asp	Ser	Met	Arg	Asn	Gln	Ile	Leu	
				820					825					830			
	Lys	His	Phe	Asp	Ile	Gly	Phe	Thr	Ser	Val	Phe	Thr	Val	Glu	Ile	Val	
			835					840					845				
40	Leu	Lys	Met	Thr	Thr	Tyr	Gly	Ala	Phe	Leu	His	Lys	Gly	Ser	Phe	Cys	
		850					855					860					
	Arg	Asn	Tyr	Phe	Asn	Met	Leu	Asp	Leu	Leu	Val	Val	Ala	Val	Ser	Leu	
45	865					870					875					880	
	Ile	Ser	Met	Gly	Leu	Glu	Ser	Ser	Ala	Ile	Ser	Val	Val	Lys	Ile	Leu	
					885					890					895		
50	Arg	Val	Leu	Arg	Val	Leu	Arg	Pro	Leu	Arg	Ala	Ile	Asn	Arg	Ala	Lys	
				900					905					910			
	Gly	Leu	Lys	His	Val	Ala	Arg	Cys	Met	Phe	Val	Ala	Ile	Ser	Thr	Ile	
			915					920					925				
55	Gly	Asn	Ile	Val	Leu	Val	Thr	Thr	Leu	Leu	Gln	Phe	Met	Phe	Ala	Cys	
		930					935					940					
	Ile	Gly	Val	Gln	Leu	Phe	Lys	Gly	Lys	Phe	Phe	Arg	Cys	Thr	Asp	Leu	
60	945					950					955					960	
	Ser	Lys	Met	Thr	Glu	Glu	Glu	Cys	Arg	Gly	Tyr	Tyr	Tyr	Val	Tyr	Lys	
					965					970					975		

	Asp	Gly	Asp	Pro	Met	Gln	Ile	Glu	Leu	Arg	His	Arg	Glu	Trp	Val	His	
				980					985					990			
5	Ser	Asp	Phe	His	Phe	Asp	Asn	Val	Leu	Ser	Ala	Met	Met	Ser	Leu	Phe	
			995					1000					1005				
	Thr	Val	Ser	Thr	Phe	Glu	Gly	Trp	Pro	Gln	Leu	Leu	Tyr	Lys	Ala		
		1010					1015					1020					
10	Ile	Asp	Ser	Asn	Ala	Glu	Asp	Val	Gly	Pro	Ile	Tyr	Asn	Asn	Arg		
		1025					1030					1035					
	Val	Glu	Met	Ala	Ile	Phe	Phe	Ile	Ile	Tyr	Ile	Ile	Leu	Ile	Ala		
15		1040					1045					1050					
	Phe	Phe	Met	Met	Asn	Ile	Phe	Val	Gly	Phe	Val	Ile	Val	Thr	Phe		
		1055					1060					1065					
20	Gln	Glu	Gln	Gly	Glu	Thr	Glu	Tyr	Lys	Asn	Cys	Glu	Leu	Asp	Lys		
		1070					1075					1080					
	Asn	Gln	Arg	Gln	Cys	Val	Gln	Tyr	Ala	Leu	Lys	Ala	Arg	Pro	Leu		
25		1085					1090					1095					
	Arg	Cys	Tyr	Ile	Pro	Lys	Asn	Pro	Tyr	Gln	Tyr	Gln	Val	Trp	Tyr		
		1100					1105					1110					
	Ile	Val	Thr	Ser	Ser	Tyr	Phe	Glu	Tyr	Leu	Met	Phe	Ala	Leu	Ile		
30		1115					1120					1125					
	Met	Leu	Asn	Thr	Ile	Cys	Leu	Gly	Met	Gln	His	Tyr	Asn	Gln	Ser		
		1130					1135					1140					
35	Glu	Gln	Met	Asn	His	Ile	Ser	Asp	Ile	Leu	Asn	Val	Ala	Phe	Thr		
		1145					1150					1155					
	Ile	Ile	Phe	Thr	Leu	Glu	Met	Ile	Leu	Lys	Leu	Met	Ala	Phe	Lys		
40		1160					1165					1170					
	Ala	Arg	Gly	Tyr	Phe	Gly	Asn	Pro	Trp	Asn	Val	Phe	Asp	Phe	Leu		
		1175					1180					1185					
	Ile	Val	Ile	Gly	Ser	Ile	Ile	Asp	Val	Ile	Leu	Ser	Glu	Ile	Asp		
45		1190					1195					1200					
	Asp	Pro	Asp	Glu	Ser	Ala	Arg	Ile	Ser	Ser	Ala	Phe	Phe	Arg	Leu		
		1205					1210					1215					
50	Phe	Arg	Val	Met	Arg	Leu	Ile	Lys	Leu	Leu	Ser	Arg	Ala	Glu	Gly		
		1220					1225					1230					
	Val	Arg	Thr	Leu	Leu	Trp	Thr	Phe	Ile	Lys	Ser	Phe	Gln	Ala	Leu		
		1235					1240					1245					
55	Pro	Tyr	Val	Ala	Leu	Leu	Ile	Val	Met	Leu	Phe	Phe	Ile	Tyr	Ala		
		1250					1255					1260					
	Val	Ile	Gly	Met	Gln	Met	Phe	Gly	Lys	Ile	Ala	Leu	Val	Asp	Gly		
60		1265					1270					1275					
	Thr	Gln	Ile	Asn	Arg	Asn	Asn	Asn	Phe	Gln	Thr	Phe	Pro	Gln	Ala		
		1280					1285					1290					

	Val	Leu	Leu	Leu	Phe	Arg	Cys	Ala	Thr	Gly	Glu	Ala	Trp	Gln	Glu
	1295						1300					1305			
5	Ile	Leu	Leu	Ala	Cys	Ser	Tyr	Gly	Lys	Leu	Cys	Asp	Pro	Glu	Ser
	1310						1315					1320			
	Asp	Tyr	Ala	Pro	Gly	Glu	Glu	Tyr	Thr	Cys	Gly	Thr	Asn	Phe	Ala
	1325						1330					1335			
10	Tyr	Tyr	Tyr	Phe	Ile	Ser	Phe	Tyr	Met	Leu	Cys	Ala	Phe	Leu	Val
	1340						1345					1350			
	Ile	Asn	Leu	Phe	Val	Ala	Val	Ile	Met	Asp	Asn	Phe	Asp	Tyr	Leu
15	1355						1360					1365			
	Thr	Arg	Asp	Trp	Ser	Ile	Leu	Gly	Pro	His	His	Leu	Asp	Glu	Phe
	1370						1375					1380			
20	Lys	Ala	Ile	Trp	Ala	Glu	Tyr	Asp	Pro	Glu	Ala	Lys	Gly	Arg	Ile
	1385						1390					1395			
	Lys	His	Leu	Asp	Val	Val	Thr	Leu	Leu	Arg	Arg	Ile	Gln	Pro	Pro
25	1400						1405					1410			
	Leu	Gly	Phe	Gly	Lys	Phe	Cys	Pro	His	Arg	Val	Ala	Cys	Lys	Arg
	1415						1420					1425			
30	Leu	Val	Gly	Met	Asn	Met	Pro	Leu	Asn	Ser	Asp	Gly	Thr	Val	Thr
	1430						1435					1440			
	Phe	Asn	Ala	Thr	Leu	Phe	Ala	Leu	Val	Arg	Thr	Ala	Leu	Lys	Ile
	1445						1450					1455			
35	Lys	Thr	Glu	Gly	Asn	Phe	Glu	Gln	Ala	Asn	Glu	Glu	Leu	Arg	Ala
	1460						1465					1470			
	Ile	Ile	Lys	Lys	Ile	Trp	Lys	Arg	Thr	Ser	Met	Lys	Leu	Leu	Asp
40	1475						1480					1485			
	Gln	Val	Ile	Pro	Pro	Ile	Gly	Asp	Asp	Glu	Val	Thr	Val	Gly	Lys
	1490						1495					1500			
45	Phe	Tyr	Ala	Thr	Phe	Leu	Ile	Gln	Glu	His	Phe	Arg	Lys	Phe	Met
	1505						1510					1515			
	Lys	Arg	Gln	Glu	Glu	Tyr	Tyr	Gly	Tyr	Arg	Pro	Lys	Lys	Asp	Ile
	1520						1525					1530			
50	Val	Gln	Ile	Gln	Ala	Gly	Leu	Arg	Thr	Ile	Glu	Glu	Glu	Ala	Ala
	1535						1540					1545			
	Pro	Glu	Ile	Cys	Arg	Thr	Val	Ser	Gly	Asp	Leu	Ala	Ala	Glu	Glu
55	1550						1555					1560			
	Glu	Leu	Glu	Arg	Ala	Met	Val	Glu	Ala	Ala	Met	Glu	Glu	Gly	Ile
	1565						1570					1575			
60	Phe	Arg	Arg	Thr	Gly	Gly	Leu	Phe	Gly	Gln	Val	Asp	Asn	Phe	Leu
	1580						1585					1590			
	Glu	Arg	Thr	Asn	Ser	Leu	Pro	Pro	Val	Met	Ala	Asn	Gln	Arg	Pro
	1595						1600					1605			

	Leu	Gln	Phe	Ala	Glu	Ile	Glu	Met	Glu	Glu	Met	Glu	Ser	Pro	Val
	1610						1615					1620			
5	Phe	Leu	Glu	Asp	Phe	Pro	Gln	Asp	Pro	Arg	Thr	Asn	Pro	Leu	Ala
	1625						1630					1635			
	Arg	Ala	Asn	Thr	Asn	Asn	Ala	Asn	Ala	Asn	Val	Ala	Tyr	Ala	Asn
10	1640						1645					1650			
	Ser	Asn	His	Ser	Asn	Ser	His	Val	Phe	Ser	Ser	Val	His	Tyr	Glu
	1655						1660					1665			
	Arg	Glu	Phe	Pro	Glu	Glu	Thr	Glu	Thr	Pro	Ala	Thr	Arg	Gly	Arg
15	1670						1675					1680			
	Ala	Leu	Gly	Gln	Pro	Cys	Arg	Ser	Leu	Gly	Pro	His	Ser	Lys	Pro
	1685						1690					1695			
20	Cys	Val	Glu	Met	Leu	Lys	Gly	Leu	Leu	Thr	Gln	Arg	Ala	Met	Pro
	1700						1705					1710			
	Arg	Gly	Gln	Ala	Pro	Pro	Ala	Pro	Cys	Gln	Cys	Pro	Arg	Val	Glu
25	1715						1720					1725			
	Ser	Ser	Met	Pro	Glu	Asp	Arg	Lys	Ser	Ser	Thr	Pro	Gly	Ser	Leu
	1730						1735					1740			
	His	Glu	Glu	Thr	Pro	His	Ser	Arg	Ser	Thr	Arg	Glu	Asn	Thr	Ser
30	1745						1750					1755			
	Arg	Cys	Ser	Ala	Pro	Ala	Thr	Ala	Leu	Leu	Ile	Gln	Lys	Ala	Leu
	1760						1765					1770			
35	Val	Arg	Gly	Gly	Leu	Gly	Thr	Leu	Ala	Ala	Asp	Ala	Asn	Phe	Ile
	1775						1780					1785			
	Met	Ala	Thr	Gly	Gln	Ala	Leu	Gly	Asp	Ala	Cys	Gln	Met	Glu	Pro
40	1790						1795					1800			
	Glu	Glu	Val	Glu	Ile	Met	Ala	Thr	Glu	Leu	Leu	Lys	Gly	Arg	Glu
	1805						1810					1815			
	Ala	Pro	Asp	Gly	Met	Ala	Ser	Ser	Leu	Gly	Cys	Leu	Asn	Leu	Gly
45	1820						1825					1830			
	Ser	Ser	Leu	Gly	Ser	Leu	Asp	Gln	His	Gln	Gly	Ser	Gln	Glu	Thr
	1835						1840					1845			
50	Leu	Ile	Pro	Pro	Arg	Leu									
	1850														
55	<210>	3													
	<211>	6501													
	<212>	DNA													
	<213>	Homo sapiens													
60	<220>														
	<221>	CDS													
	<222>	(1)..(6501)													

```

<400> 3
atg atg atg atg atg atg atg aaa aaa atg cag cat caa cgg cag cag      48
Met Met Met Met Met Met Met Lys Lys Met Gln His Gln Arg Gln Gln
1          5          10          15

5   caa gcg gac cac gcg aac gag gca aac tat gca aga ggc acc aga ctt      96
    Gln Ala Asp His Ala Asn Glu Ala Asn Tyr Ala Arg Gly Thr Arg Leu
          20          25          30

10  cct ctt tct ggt gaa gga cca act tct cag ccg aat agc tcc aag caa      144
    Pro Leu Ser Gly Glu Gly Pro Thr Ser Gln Pro Asn Ser Ser Lys Gln
          35          40          45

15  act gtc ctg tct tgg caa gct gca atc gat gct gct aga cag gcc aag      192
    Thr Val Leu Ser Trp Gln Ala Ala Ile Asp Ala Ala Arg Gln Ala Lys
          50          55          60

20  gct gcc caa act atg agc acc tct gca ccc cca cct gta gga tct ctc      240
    Ala Ala Gln Thr Met Ser Thr Ser Ala Pro Pro Pro Val Gly Ser Leu
    65          70          75          80

25  tcc caa aga aaa cgt cag caa tac gcc aag agc aaa aaa cag ggt aac      288
    Ser Gln Arg Lys Arg Gln Gln Tyr Ala Lys Ser Lys Lys Gln Gly Asn
          85          90          95

    tcg tcc aac agc cga cct gcc cgc gcc ctt ttc tgt tta tca ctc aat      336
    Ser Ser Asn Ser Arg Pro Ala Arg Ala Leu Phe Cys Leu Ser Leu Asn
          100          105          110

30  aac ccc atc cga aga gcc tgc att agt ata gtg gaa tgg aaa cca ttt      384
    Asn Pro Ile Arg Arg Ala Cys Ile Ser Ile Val Glu Trp Lys Pro Phe
          115          120          125

35  gac ata ttt ata tta ttg gct att ttt gcc aat tgt gtg gcc tta gct      432
    Asp Ile Phe Ile Leu Leu Ala Ile Phe Ala Asn Cys Val Ala Leu Ala
          130          135          140

40  att tac atc cca ttc cct gaa gat gat tct aat tca aca aat cat aac      480
    Ile Tyr Ile Pro Phe Pro Glu Asp Asp Ser Asn Ser Thr Asn His Asn
    145          150          155          160

    ttg gaa aaa gta gaa tat gcc ttc ctg att att ttt aca gtc gag aca      528
    Leu Glu Lys Val Glu Tyr Ala Phe Leu Ile Ile Phe Thr Val Glu Thr
          165          170          175

45  ttt ttg aag att ata gcg tat gga tta ttg cta cat cct aat gct tat      576
    Phe Leu Lys Ile Ile Ala Tyr Gly Leu Leu Leu His Pro Asn Ala Tyr
          180          185          190

50  gtt agg aat gga tgg aat tta ctg gat ttt gtt ata gta ata gta gga      624
    Val Arg Asn Gly Trp Asn Leu Leu Asp Phe Val Ile Val Ile Val Gly
          195          200          205

55  ttg ttt agt gta att ttg gaa caa tta acc aaa gaa aca gaa ggc ggg      672
    Leu Phe Ser Val Ile Leu Glu Gln Leu Thr Lys Glu Thr Glu Gly Gly
          210          215          220

60  aac cac tca agc ggc aaa tct gga ggc ttt gat gtc aaa gcc ctc cgt      720
    Asn His Ser Ser Gly Lys Ser Gly Gly Phe Asp Val Lys Ala Leu Arg
    225          230          235          240

    gcc ttt cga gtg ttg cga cca ctt cga cta gtg tca ggg gtg ccc agt      768
    Ala Phe Arg Val Leu Arg Pro Leu Arg Leu Val Ser Gly Val Pro Ser
          245          250          255

```

	tta caa gtt gtc ctg aac tcc att ata aaa gcc atg gtt ccc ctc ctt	816
	Leu Gln Val Val Leu Asn Ser Ile Ile Lys Ala Met Val Pro Leu Leu	
	260 265 270	
5	cac ata gcc ctt ttg gta tta ttt gta atc ata atc tat gct att ata	864
	His Ile Ala Leu Leu Val Leu Phe Val Ile Ile Ile Tyr Ala Ile Ile	
	275 280 285	
10	gga ttg gaa ctt ttt att gga aaa atg cac aaa aca tgt ttt ttt gct	912
	Gly Leu Glu Leu Phe Ile Gly Lys Met His Lys Thr Cys Phe Phe Ala	
	290 295 300	
15	gac tca gat atc gta gct gaa gag gac cca gct cca tgt gcg ttc tca	960
	Asp Ser Asp Ile Val Ala Glu Glu Asp Pro Ala Pro Cys Ala Phe Ser	
	305 310 315 320	
20	ggg aat gga cgc cag tgt act gcc aat ggc acg gaa tgt agg agt ggc	1008
	Gly Asn Gly Arg Gln Cys Thr Ala Asn Gly Thr Glu Cys Arg Ser Gly	
	325 330 335	
25	tgg gtt ggc ccg aac gga ggc atc acc aac ttt gat aac ttt gcc ttt	1056
	Trp Val Gly Pro Asn Gly Gly Ile Thr Asn Phe Asp Asn Phe Ala Phe	
	340 345 350	
	gcc atg ctt act gtg ttt cag tgc atc acc atg gag ggc tgg aca gac	1104
	Ala Met Leu Thr Val Phe Gln Cys Ile Thr Met Glu Gly Trp Thr Asp	
	355 360 365	
30	gtg ctc tac tgg gta aat gat gcg ata gga tgg gaa tgg cca tgg gtg	1152
	Val Leu Tyr Trp Val Asn Asp Ala Ile Gly Trp Glu Trp Pro Trp Val	
	370 375 380	
35	tat ttt gtt agt ctg atc atc ctt ggc tca ttt ttc gtc ctt aac ctg	1200
	Tyr Phe Val Ser Leu Ile Ile Leu Gly Ser Phe Phe Val Leu Asn Leu	
	385 390 395 400	
40	gtt ctt ggt gtc ctt agt gga gaa ttc tca aag gaa aga gag aag gca	1248
	Val Leu Gly Val Leu Ser Gly Glu Phe Ser Lys Glu Arg Glu Lys Ala	
	405 410 415	
45	aaa gca cgg gga gat ttc cag aag ctc cgg gag aag cag cag ctg gag	1296
	Lys Ala Arg Gly Asp Phe Gln Lys Leu Arg Glu Lys Gln Gln Leu Glu	
	420 425 430	
	gag gat cta aag ggc tac ttg gat tgg atc acc caa gct gag gac atc	1344
	Glu Asp Leu Lys Gly Tyr Leu Asp Trp Ile Thr Gln Ala Glu Asp Ile	
	435 440 445	
50	gat ccg gag aat gag gaa gaa gga gga gag gaa ggc aaa cga aat act	1392
	Asp Pro Glu Asn Glu Glu Glu Gly Gly Glu Glu Gly Lys Arg Asn Thr	
	450 455 460	
55	agc atg ccc acc agc gag act gag tct gtg aac aca gag aac gtc agc	1440
	Ser Met Pro Thr Ser Glu Thr Val Asn Thr Glu Asn Val Ser	
	465 470 475 480	
60	ggt gaa ggc gag aac cga ggc tgc tgt gga agt ctc tgg tgc tgg tgg	1488
	Gly Glu Gly Glu Asn Arg Gly Cys Cys Gly Ser Leu Trp Cys Trp Trp	
	485 490 495	
	aga cgg aga ggc gcg gcc aag gcg ggg ccc tct ggg tgt cgg cgg tgg	1536
	Arg Arg Arg Gly Ala Ala Lys Ala Gly Pro Ser Gly Cys Arg Arg Trp	
	500 505 510	



	ggt caa gcc atc tca aaa tcc aaa ctc agc cga cgc tgg cgt cgc tgg	1584
	Gly Gln Ala Ile Ser Lys Ser Lys Leu Ser Arg Arg Trp Arg Arg Trp	
	515 520 525	
5	aac cga ttc aat cgc aga aga tgt agg gcc gcc gtg aag tct gtc acg	1632
	Asn Arg Phe Asn Arg Arg Arg Cys Arg Ala Ala Val Lys Ser Val Thr	
	530 535 540	
10	ttt tac tgg ctg gtt atc gtc ctg gtg ttt ctg aac acc tta acc att	1680
	Phe Tyr Trp Leu Val Ile Val Leu Val Phe Leu Asn Thr Leu Thr Ile	
	545 550 555 560	
15	tcc tct gag cac tac aat cag cca gat tgg ttg aca cag att caa gat	1728
	Ser Ser Glu His Tyr Asn Gln Pro Asp Trp Leu Thr Gln Ile Gln Asp	
	565 570 575	
20	att gcc aac aaa gtc ctc ttg gct ctg ttc acc tgc gag atg ctg gta	1776
	Ile Ala Asn Lys Val Leu Leu Ala Leu Phe Thr Cys Glu Met Leu Val	
	580 585 590	
25	aaa atg tac agc ttg ggc ctc caa gca tat ttc gtc tct ctt ttc aac	1824
	Lys Met Tyr Ser Leu Gly Leu Gln Ala Tyr Phe Val Ser Leu Phe Asn	
	595 600 605	
30	cgg ttt gat tgc ttc gtg gtg tgt ggt gga atc act gag acg atc ctg	1872
	Arg Phe Asp Cys Phe Val Val Cys Gly Gly Ile Thr Glu Thr Ile Leu	
	610 615 620	
35	gtg gaa ctg gaa atc atg tct ccc ctg ggg atc tct gtg ttt cgg tgt	1920
	Val Glu Leu Glu Ile Met Ser Pro Leu Gly Ile Ser Val Phe Arg Cys	
	625 630 635 640	
40	gtg cgc ctc tta aga atc ttc aaa gtg acc agg cac tgg act tcc ctg	1968
	Val Arg Leu Leu Arg Ile Phe Lys Val Thr Arg Arg His Trp Thr Ser Leu	
	645 650 655	
45	agc aac tta gtg gca tcc tta tta aac tcc atg aag tcc atc gct tcg	2016
	Ser Asn Leu Val Ala Ser Leu Leu Asn Ser Met Lys Ser Ile Ala Ser	
	660 665 670	
50	ctg ttg ctt ctg ctt ttt ctc ttc att atc atc ttt tcc ttg ctt ggg	2064
	Leu Leu Leu Leu Leu Phe Leu Phe Ile Ile Ile Phe Ser Leu Leu Gly	
	675 680 685	
55	atg cag ctg ttt ggc ggc aag ttt aat ttt gat gaa acg caa acc aag	2112
	Met Gln Leu Phe Gly Gly Lys Phe Asn Phe Asp Glu Thr Gln Thr Lys	
	690 695 700	
60	cgg agc acc ttt gac aat ttc cct caa gca ctt ctc aca gtg ttc cag	2160
	Arg Ser Thr Phe Asp Asn Phe Pro Gln Ala Leu Leu Thr Val Phe Gln	
	705 710 715 720	
65	atc ctg aca ggc gaa gac tgg aat gct gtg atg tac gat ggc atc atg	2208
	Ile Leu Thr Gly Glu Asp Trp Asn Ala Val Met Tyr Asp Gly Ile Met	
	725 730 735	
70	gct tac ggg ggc cca tcc tct tca gga atg atc gtc tgc atc tac ttc	2256
	Ala Tyr Gly Gly Pro Ser Ser Ser Gly Met Ile Val Cys Ile Tyr Phe	
	740 745 750	
75	atc atc ctc ttc att tgt ggt aac tat att cta ctg aat gtc ttc ttg	2304
	Ile Ile Leu Phe Ile Cys Gly Asn Tyr Ile Leu Leu Asn Val Phe Leu	
	755 760 765	

	gcc atc gct gta gac aat ttg gct gat gct gaa agt ctg aac act gct	2352
	Ala Ile Ala Val Asp Asn Leu Ala Asp Ala Glu Ser Leu Asn Thr Ala	
	770 775 780	
5	cag aaa gaa gaa gcg gaa gaa aag gag agg aaa aag att gcc aga aaa	2400
	Gln Lys Glu Glu Ala Glu Glu Lys Glu Arg Lys Lys Ile Ala Arg Lys	
	785 790 795 800	
10	gag agc cta gaa aat aaa aag aac aac aaa cca gaa gtc aac cag ata	2448
	Glu Ser Leu Glu Asn Lys Lys Asn Asn Lys Pro Glu Val Asn Gln Ile	
	805 810 815	
15	gcc aac agt gac aac aag gtt aca att gat gac tat aga gaa gag gat	2496
	Ala Asn Ser Asp Asn Lys Val Thr Ile Asp Asp Tyr Arg Glu Glu Asp	
	820 825 830	
20	gaa gac aag gac ccc tat ccg cct tgc gat gtg cca gta ggg gaa gag	2544
	Glu Asp Lys Asp Pro Tyr Pro Pro Cys Asp Val Pro Val Gly Glu Glu	
	835 840 845	
25	gaa gag gaa gag gag gag gat gaa cct gag gtt cct gcc gga ccc cgt	2592
	Glu Glu Glu Glu Glu Glu Asp Glu Pro Glu Val Pro Ala Gly Pro Arg	
	850 855 860	
30	cct cga agg atc tcg gag ttg aac atg aag gaa aaa att gcc ccc atc	2640
	Pro Arg Arg Ile Ser Glu Leu Asn Met Lys Glu Lys Ile Ala Pro Ile	
	865 870 875 880	
35	cct gaa ggg agc gct ttc ttc att ctt agc aag acc aac ccg atc cgc	2688
	Pro Glu Gly Ser Ala Phe Phe Ile Leu Ser Lys Thr Asn Pro Ile Arg	
	885 890 895	
40	gta ggc tgc cac aag ctc atc aac cac cac atc ttc acc aac ctc atc	2736
	Val Gly Cys His Lys Leu Ile Asn His His Ile Phe Thr Asn Leu Ile	
	900 905 910	
45	ctt gtc ttc atc atg ctg agc agc gct gcc ctg gcc gca gag gac ccc	2784
	Leu Val Phe Ile Met Leu Ser Ser Ala Ala Leu Ala Ala Glu Asp Pro	
	915 920 925	
50	atc cgc agc cac tcc ttc cgg aac acg ata ctg ggt tac ttt gac tat	2832
	Ile Arg Ser His Ser Phe Arg Asn Thr Ile Leu Gly Tyr Phe Asp Tyr	
	930 935 940	
55	gcc ttc aca gcc atc ttt act gtt gag atc ctg ttg aag atg aca act	2880
	Ala Phe Thr Ala Ile Phe Thr Val Glu Ile Leu Leu Lys Met Thr Thr	
	945 950 955 960	
60	ttt gga gct ttc ctc cac aaa ggg gcc ttc tgc agg aac tac ttc aat	2928
	Phe Gly Ala Phe Leu His Lys Gly Ala Phe Cys Arg Asn Tyr Phe Asn	
	965 970 975	
65	ttg ctg gat atg ctg gtg gtt ggg gtg tct ctg gtg tca ttt ggg att	2976
	Leu Leu Asp Met Leu Val Val Gly Val Ser Leu Val Ser Phe Gly Ile	
	980 985 990	
70	caa tcc agt gcc atc tcc gtt gtg aag att ctg agg gtc tta agg gtc	3024
	Gln Ser Ser Ala Ile Ser Val Lys Ile Leu Arg Val Leu Arg Val	
	995 1000 1005	
75	ctg cgt ccc ctc agg gcc atc aac aga gca aaa gga ctt aag cac	3069
	Leu Arg Pro Leu Arg Ala Ile Asn Arg Ala Lys Gly Leu Lys His	
	1010 1015 1020	

	gtg gtc cag tgc gtc ttc gtg gcc atc cgg acc atc ggc aac atc	3114
	Val Val Gln Cys Val Phe Val Ala Ile Arg Thr Ile Gly Asn Ile	
	1025 1030 1035	
5	atg atc gtc act acc ctc ctg cag ttc atg ttt gcc tgt atc ggg	3159
	Met Ile Val Thr Thr Leu Leu Gln Phe Met Phe Ala Cys Ile Gly	
	1040 1045 1050	
10	gtc cag ttg ttc aag ggg aag ttc tat cgc tgt acg gat gaa gcc	3204
	Val Gln Leu Phe Lys Gly Lys Phe Tyr Arg Cys Thr Asp Glu Ala	
	1055 1060 1065	
15	aaa agt aac cct gaa gaa tgc agg gga ctt ttc atc ctc tac aag	3249
	Lys Ser Asn Pro Glu Glu Cys Arg Gly Leu Phe Ile Leu Tyr Lys	
	1070 1075 1080	
20	gat ggg gat gtt gac agt cct gtg gtc cgt gaa cgg atc tgg caa	3294
	Asp Gly Asp Val Asp Ser Pro Val Val Arg Glu Arg Ile Trp Gln	
	1085 1090 1095	
25	aac agt gat ttc aac ttc gac aac gtc ctc tct gct atg atg gcg	3339
	Asn Ser Asp Phe Asn Phe Asp Asn Val Leu Ser Ala Met Met Ala	
	1100 1105 1110	
	ctc ttc aca gtc tcc acg ttt gag ggc tgg cct gcg ttg ctg tat	3384
	Leu Phe Thr Val Ser Thr Phe Glu Gly Trp Pro Ala Leu Leu Tyr	
	1115 1120 1125	
30	aaa gcc atc gac tgc aat gga gag aac atc ggc cca atc tac aac	3429
	Lys Ala Ile Asp Ser Asn Gly Glu Asn Ile Gly Pro Ile Tyr Asn	
	1130 1135 1140	
35	cac cgc gtg gag atc tcc atc ttc ttc atc atc tac atc atc att	3474
	His Arg Val Glu Ile Ser Ile Phe Phe Ile Ile Tyr Ile Ile Ile	
	1145 1150 1155	
40	gta gct ttc ttc atg atg aac atc ttt gtg ggc ttt gtc atc gtt	3519
	Val Ala Phe Phe Met Met Asn Ile Phe Val Gly Phe Val Ile Val	
	1160 1165 1170	
45	aca ttt cag gaa caa gga gaa aaa gag tat aag aac tgt gag ctg	3564
	Thr Phe Gln Glu Gln Gly Glu Lys Glu Tyr Lys Asn Cys Glu Leu	
	1175 1180 1185	
	gac aaa aat cag cgt cag tgt gtt gaa tac gcc ttg aaa gca cgt	3609
	Asp Lys Asn Gln Arg Gln Cys Val Glu Tyr Ala Leu Lys Ala Arg	
	1190 1195 1200	
50	ccc ttg cgg aga tac atc ccc aaa aac ccc tac cag tac aag ttc	3654
	Pro Leu Arg Arg Tyr Ile Pro Lys Asn Pro Tyr Gln Tyr Lys Phe	
	1205 1210 1215	
55	tgg tac gtg gtg aac tct tgc cct ttc gaa tac atg atg ttt gtc	3699
	Trp Tyr Val Val Asn Ser Ser Pro Phe Glu Tyr Met Met Phe Val	
	1220 1225 1230	
60	ctc atc atg ctc aac aca ctc tgc ttg gcc atg cag cac tac gag	3744
	Leu Ile Met Leu Asn Thr Leu Cys Leu Ala Met Gln His Tyr Glu	
	1235 1240 1245	
	cag tcc aag atg ttc aat gat gcc atg gac att ctg aac atg gtc	3789
	Gln Ser Lys Met Phe Asn Asp Ala Met Asp Ile Leu Asn Met Val	
	1250 1255 1260	

5	ttc acc ggg gtg ttc acc gtc gag atg gtt ttg aaa gtc atc gca	3834
	Phe Thr Gly Val Phe Thr Val Glu Met Val Leu Lys Val Ile Ala	
	1265 1270 1275	
	ttt aag cct aag ggg tat ttt agt gac gcc tgg aac acg ttt gac	3879
	Phe Lys Pro Lys Gly Tyr Phe Ser Asp Ala Trp Asn Thr Phe Asp	
10	1280 1285 1290	
	tcc ctc atc gta atc ggc agc att ata gac gtg gcc ctc agc gaa	3924
	Ser Leu Ile Val Ile Gly Ser Ile Ile Asp Val Ala Leu Ser Glu	
	1295 1300 1305	
	gcg gac aac tct gaa gag agc aat aga atc tcc atc acc ttt ttc	3969
15	Ala Asp Asn Ser Glu Glu Ser Asn Arg Ile Ser Ile Thr Phe Phe	
	1310 1315 1320	
	cgt ctt ttc cga gtg atg cga ttg gtg aag ctt ctc agc agg ggg	4014
	Arg Leu Phe Arg Val Met Arg Leu Val Lys Leu Leu Ser Arg Gly	
	1325 1330 1335	
20	gaa ggc atc cgg aca ttg ctg tgg act ttt att aag tcc ttt cag	4059
	Glu Gly Ile Arg Thr Leu Leu Trp Thr Phe Ile Lys Ser Phe Gln	
	1340 1345 1350	
	gcg ctc ccg tat gtg gcc ctc ctc ata gcc atg ctg ttc ttc atc	4104
	Ala Leu Pro Tyr Val Ala Leu Leu Ile Ala Met Leu Phe Phe Ile	
25	1355 1360 1365	
	tat gcg gtc att ggc atg cag atg ttt ggg aaa gtt gcc atg aga	4149
	Tyr Ala Val Ile Gly Met Gln Met Phe Gly Lys Val Ala Met Arg	
	1370 1375 1380	
	gat aac aac cag atc aat agg aac aat aac ttc cag acg ttt ccc	4194
30	Asp Asn Asn Gln Ile Asn Arg Asn Asn Asn Phe Gln Thr Phe Pro	
	1385 1390 1395	
	cag gcg gtg ctg ctg ctc ttc agg tgt gca aca ggt gag gcc tgg	4239
	Gln Ala Val Leu Leu Leu Phe Arg Cys Ala Thr Gly Glu Ala Trp	
	1400 1405 1410	
35	cag gag atc atg ctg gcc tgt ctc cca ggg aag ctc tgt gac cct	4284
	Gln Glu Ile Met Leu Ala Cys Leu Pro Gly Lys Leu Cys Asp Pro	
	1415 1420 1425	
	gag tca gat tac aac ccc ggg gag gag tat aca tgt ggg agc aac	4329
	Glu Ser Asp Tyr Asn Pro Gly Glu Glu Tyr Thr Cys Gly Ser Asn	
40	1430 1435 1440	
	ttt gcc att gtc tat ttc atc agt ttt tac atg ctc tgt gca ttt	4374
	Phe Ala Ile Val Tyr Phe Ile Ser Phe Tyr Met Leu Cys Ala Phe	
	1445 1450 1455	
	ctg atc atc aat ctg ttt gtg gct gtc atc atg gat aat ttc gac	4419
45	Leu Ile Ile Asn Leu Phe Val Ala Val Ile Met Asp Asn Phe Asp	
	1460 1465 1470	
	tat ctg acc cgg gac tgg tct att ttg ggg cct cac cat tta gat	4464
	Tyr Leu Thr Arg Asp Trp Ser Ile Leu Gly Pro His His Leu Asp	
	1475 1480 1485	
50	gaa ttc aaa aga ata tgg tca gaa tat gac cct gag gca aag gga	4509
	Glu Phe Lys Arg Ile Trp Ser Glu Tyr Asp Pro Glu Ala Lys Gly	
	1490 1495 1500	

	agg ata aaa cac ctt gat gtg gtc act ctg ctt cga cgc atc cag	4554
	Arg Ile Lys His Leu Asp Val Val Thr Leu Leu Arg Arg Ile Gln	
	1505 1510 1515	
5	cct ccc ctg ggg ttt ggg aag tta tgt cca cac agg gta gcg tgc	4599
	Pro Pro Leu Gly Phe Gly Lys Leu Cys Pro His Arg Val Ala Cys	
	1520 1525 1530	
10	aag aga tta gtt gcc atg aac atg cct ctc aac agt gac ggg aca	4644
	Lys Arg Leu Val Ala Met Asn Met Pro Leu Asn Ser Asp Gly Thr	
	1535 1540 1545	
15	gtc atg ttt aat gca acc ctg ttt gct ttg gtt cga acg gct ctt	4689
	Val Met Phe Asn Ala Thr Leu Phe Ala Leu Val Arg Thr Ala Leu	
	1550 1555 1560	
20	aag atc aag acc gaa ggg aac ctg gag caa gct aat gaa gaa ctt	4734
	Lys Ile Lys Thr Glu Gly Asn Leu Glu Gln Ala Asn Glu Glu Leu	
	1565 1570 1575	
25	cgg gct gtg ata aag aaa att tgg aag aaa acc agc atg aaa tta	4779
	Arg Ala Val Ile Lys Lys Ile Trp Lys Lys Thr Ser Met Lys Leu	
	1580 1585 1590	
	ctt gac caa gtt gtc cct cca gct ggt gat gat gag gta acc gtg	4824
	Leu Asp Gln Val Val Pro Pro Ala Gly Asp Asp Glu Val Thr Val	
	1595 1600 1605	
30	ggg aag ttc tat gcc act ttc ctg ata cag gac tac ttt agg aaa	4869
	Gly Lys Phe Tyr Ala Thr Phe Leu Ile Gln Asp Tyr Phe Arg Lys	
	1610 1615 1620	
35	ttc aag aaa cgg aaa gaa caa gga ctg gtg gga aag tac cct gcg	4914
	Phe Lys Lys Arg Lys Glu Gln Gly Leu Val Gly Lys Tyr Pro Ala	
	1625 1630 1635	
40	aag aac acc aca att gcc cta cag gcg gga tta agg aca ctg cat	4959
	Lys Asn Thr Thr Ile Ala Leu Gln Ala Gly Leu Arg Thr Leu His	
	1640 1645 1650	
45	gac att ggg cca gaa atc cgg cgt gct ata tcg tgt gat ttg caa	5004
	Asp Ile Gly Pro Glu Ile Arg Arg Ala Ile Ser Cys Asp Leu Gln	
	1655 1660 1665	
	gat gac gag cct gag gaa aca aaa cga gaa gaa gaa gat gat gtg	5049
	Asp Asp Glu Pro Glu Glu Thr Lys Arg Glu Glu Glu Asp Asp Val	
	1670 1675 1680	
50	ttc aaa aga aat ggt gcc ctg ctt gga aac cat gtc aat cat gtt	5094
	Phe Lys Arg Asn Gly Ala Leu Leu Gly Asn His Val Asn His Val	
	1685 1690 1695	
55	aat agt gat agg aga gat tcc ctt cag cag acc aat acc acc cac	5139
	Asn Ser Asp Arg Arg Asp Ser Leu Gln Gln Thr Asn Thr Thr His	
	1700 1705 1710	
60	cgt ccc ctg cat gtc caa agg cct tca att cca cct gca agt gat	5184
	Arg Pro Leu His Val Gln Arg Pro Ser Ile Pro Pro Ala Ser Asp	
	1715 1720 1725	
	act gag aaa ccg ctg ttt cct cca gca gga aat tcg gtg tgt cat	5229
	Thr Glu Lys Pro Leu Phe Pro Pro Ala Gly Asn Ser Val Cys His	
	1730 1735 1740	

5	aac cat cat aac cat aat tcc ata gga aag caa gtt ccc acc tca	5274
	Asn His His Asn His Asn Ser Ile Gly Lys Gln Val Pro Thr Ser	
	1745 1750 1755	
10	aca aat gcc aat ctc aat aat gcc aat atg tcc aaa gct gcc cat	5319
	Thr Asn Ala Asn Leu Asn Asn Ala Asn Met Ser Lys Ala Ala His	
	1760 1765 1770	
15	gga aag cgg ccc agc att ggg aac ctt gag cat gtg tct gaa aat	5364
	Gly Lys Arg Pro Ser Ile Gly Asn Leu Glu His Val Ser Glu Asn	
	1775 1780 1785	
20	ggg cat cat tct tcc cac aag cat gac cgg gag cct cag aga agg	5409
	Gly His His Ser Ser His Lys His Asp Arg Glu Pro Gln Arg Arg	
	1790 1795 1800	
25	tcc agt gtg aaa aga acc cgc tat tat gaa act tac att agg tcc	5454
	Ser Ser Val Lys Arg Thr Arg Tyr Tyr Glu Thr Tyr Ile Arg Ser	
	1805 1810 1815	
30	gac tca gga gat gaa cag ctc cca act att tgc cgg gaa gac cca	5499
	Asp Ser Gly Asp Glu Gln Leu Pro Thr Ile Cys Arg Glu Asp Pro	
	1820 1825 1830	
35	gag ata cat ggc tat ttc agg gac ccc cac tgc ttg ggg gag cag	5544
	Glu Ile His Gly Tyr Phe Arg Asp Pro His Cys Leu Gly Glu Gln	
	1835 1840 1845	
40	gag tat ttc agt agt gag gaa tgc tac gag gat gac agc tcg ccc	5589
	Glu Tyr Phe Ser Ser Glu Glu Cys Tyr Glu Asp Asp Ser Ser Pro	
	1850 1855 1860	
45	acc tgg agc agg caa aac tat ggc tac tac agc aga tac cca ggc	5634
	Thr Trp Ser Arg Gln Asn Tyr Gly Tyr Tyr Ser Arg Tyr Pro Gly	
	1865 1870 1875	
50	aga aac atc gac tct gag agg ccc cga ggc tac cat cat ccc caa	5679
	Arg Asn Ile Asp Ser Glu Arg Pro Arg Gly Tyr His His Pro Gln	
	1880 1885 1890	
55	gga ttc ttg gag gac gat gac tcg ccc gtt tgc tat gat tca cgg	5724
	Gly Phe Leu Glu Asp Asp Asp Ser Pro Val Cys Tyr Asp Ser Arg	
	1895 1900 1905	
60	aga tct cca agg aga cgc cta cta cct ccc acc cca gca tcc cac	5769
	Arg Ser Pro Arg Arg Arg Leu Leu Pro Pro Thr Pro Ala Ser His	
	1910 1915 1920	
65	cgg aga tcc tcc ttc aac ttt gag tgc ctg cgc cgg cag agc agc	5814
	Arg Arg Ser Ser Phe Asn Phe Glu Cys Leu Arg Arg Gln Ser Ser	
	1925 1930 1935	
70	cag gaa gag gtc ccg tcg tct ccc atc ttc ccc cat cgc acg gcc	5859
	Gln Glu Glu Val Pro Ser Ser Pro Ile Phe Pro His Arg Thr Ala	
	1940 1945 1950	
75	ctg cct ctg cat cta atg cag caa cag atc atg gca gtt gcc ggc	5904
	Leu Pro Leu His Leu Met Gln Gln Gln Ile Met Ala Val Ala Gly	
	1955 1960 1965	
80	cta gat tca agt aaa gcc cag aag tac tca ccg agt cac tcg acc	5949
	Leu Asp Ser Ser Lys Ala Gln Lys Tyr Ser Pro Ser His Ser Thr	
	1970 1975 1980	

	cg	tc	tg	gc	ac	cc	cc	gc	ac	cc	cc	tc	cg	gc	tg	5994
	Arg	Ser	Trp	Ala	Thr	Pro	Pro	Ala	Thr	Pro	Pro	Tyr	Arg	Asp	Trp	
	1985						1990					1995				
5	aca	ccg	tgc	tac	acc	ccc	ctg	atc	caa	gtg	gag	cag	tca	gag	gcc	6039
	Thr	Pro	Cys	Tyr	Thr	Pro	Leu	Ile	Gln	Val	Glu	Gln	Ser	Glu	Ala	
	2000						2005					2010				
10	ctg	gac	cag	gtg	aac	ggc	agc	ctg	ccg	tcc	ctg	cac	cgc	agc	tcc	6084
	Leu	Asp	Gln	Val	Asn	Gly	Ser	Leu	Pro	Ser	Leu	His	Arg	Ser	Ser	
	2015						2020					2025				
15	tgg	tac	aca	gac	gag	ccc	gac	atc	tcc	tac	cgg	act	ttc	aca	cca	6129
	Trp	Tyr	Thr	Asp	Glu	Pro	Asp	Ile	Ser	Tyr	Arg	Thr	Phe	Thr	Pro	
	2030						2035					2040				
20	gcc	agc	ctg	act	gtc	ccc	agc	agc	ttc	cgg	aac	aaa	aac	agc	gac	6174
	Ala	Ser	Leu	Thr	Val	Pro	Ser	Ser	Phe	Arg	Asn	Lys	Asn	Ser	Asp	
	2045						2050					2055				
25	aag	cag	agg	agt	gcg	gac	agc	ttg	gtg	gag	gca	gtc	ctg	ata	tcc	6219
	Lys	Gln	Arg	Ser	Ala	Asp	Ser	Leu	Val	Glu	Ala	Val	Leu	Ile	Ser	
	2060						2065					2070				
30	gaa	ggc	ttg	gga	cgc	tat	gca	agg	gac	cca	aaa	ttt	gtg	tca	gca	6264
	Glu	Gly	Leu	Gly	Arg	Tyr	Ala	Arg	Asp	Pro	Lys	Phe	Val	Ser	Ala	
	2075						2080					2085				
35	aca	aaa	cac	gaa	atc	gct	gat	gcc	tgt	gac	ctc	acc	atc	gac	gag	6309
	Thr	Lys	His	Glu	Ile	Ala	Asp	Ala	Cys	Asp	Leu	Thr	Ile	Asp	Glu	
	2090						2095					2100				
40	atg	gag	agt	gca	gcc	agc	acc	ctg	ctt	aat	ggg	aac	gtg	cgt	ccc	6354
	Met	Glu	Ser	Ala	Ala	Ser	Thr	Leu	Leu	Asn	Gly	Asn	Val	Arg	Pro	
	2105						2110					2115				
45	cga	gcc	aac	ggg	gat	gtg	ggc	ccc	ctc	tca	cac	cgg	cag	gac	tat	6399
	Arg	Ala	Asn	Gly	Asp	Val	Gly	Pro	Leu	Ser	His	Arg	Gln	Asp	Tyr	
	2120						2125					2130				
50	gag	cta	cag	gac	ttt	ggt	cct	ggc	tac	agc	gac	gaa	gag	cca	gac	6444
	Glu	Leu	Gln	Asp	Phe	Gly	Pro	Gly	Tyr	Ser	Asp	Glu	Glu	Pro	Asp	
	2135						2140					2145				
55	cct	ggg	agg	gat	gag	gag	gac	ctg	gcg	gat	gaa	atg	ata	tgc	atc	6489
	Pro	Gly	Arg	Asp	Glu	Glu	Asp	Leu	Ala	Asp	Glu	Met	Ile	Cys	Ile	
	2150						2155					2160				
60	acc	acc	ttg	tag												6501
	Thr	Thr	Leu													
	2165															
55	<210>	4														
	<211>	2166														
	<212>	PRT														
	<213>	Homo sapiens														
60	<400>	4														
	Met	Met	Met	Met	Met	Met	Met	Lys	Lys	Met	Gln	His	Gln	Arg	Gln	
	1				5					10				15		

	Gln	Ala	Asp	His	Ala	Asn	Glu	Ala	Asn	Tyr	Ala	Arg	Gly	Thr	Arg	Leu	
				20					25					30			
5	Pro	Leu	Ser	Gly	Glu	Gly	Pro	Thr	Ser	Gln	Pro	Asn	Ser	Ser	Lys	Gln	
			35					40				45					
	Thr	Val	Leu	Ser	Trp	Gln	Ala	Ala	Ile	Asp	Ala	Ala	Arg	Gln	Ala	Lys	
		50					55					60					
10	Ala	Ala	Gln	Thr	Met	Ser	Thr	Ser	Ala	Pro	Pro	Pro	Val	Gly	Ser	Leu	
	65					70					75					80	
	Ser	Gln	Arg	Lys	Arg	Gln	Gln	Tyr	Ala	Lys	Ser	Lys	Lys	Gln	Gly	Asn	
15					85					90					95		
	Ser	Ser	Asn	Ser	Arg	Pro	Ala	Arg	Ala	Leu	Phe	Cys	Leu	Ser	Leu	Asn	
				100					105					110			
20	Asn	Pro	Ile	Arg	Arg	Ala	Cys	Ile	Ser	Ile	Val	Glu	Trp	Lys	Pro	Phe	
			115					120					125				
	Asp	Ile	Phe	Ile	Leu	Leu	Ala	Ile	Phe	Ala	Asn	Cys	Val	Ala	Leu	Ala	
25		130					135					140					
	Ile	Tyr	Ile	Pro	Phe	Pro	Glu	Asp	Asp	Ser	Asn	Ser	Thr	Asn	His	Asn	
	145					150					155					160	
	Leu	Glu	Lys	Val	Glu	Tyr	Ala	Phe	Leu	Ile	Ile	Phe	Thr	Val	Glu	Thr	
30					165					170					175		
	Phe	Leu	Lys	Ile	Ile	Ala	Tyr	Gly	Leu	Leu	Leu	His	Pro	Asn	Ala	Tyr	
				180					185					190			
35	Val	Arg	Asn	Gly	Trp	Asn	Leu	Leu	Asp	Phe	Val	Ile	Val	Ile	Val	Gly	
			195					200					205				
	Leu	Phe	Ser	Val	Ile	Leu	Glu	Gln	Leu	Thr	Lys	Glu	Thr	Glu	Gly	Gly	
40		210					215					220					
	Asn	His	Ser	Ser	Gly	Lys	Ser	Gly	Gly	Phe	Asp	Val	Lys	Ala	Leu	Arg	
	225					230					235					240	
	Ala	Phe	Arg	Val	Leu	Arg	Pro	Leu	Arg	Leu	Val	Ser	Gly	Val	Pro	Ser	
45				245						250					255		
	Leu	Gln	Val	Val	Leu	Asn	Ser	Ile	Ile	Lys	Ala	Met	Val	Pro	Leu	Leu	
				260					265					270			
50	His	Ile	Ala	Leu	Leu	Val	Leu	Phe	Val	Ile	Ile	Ile	Tyr	Ala	Ile	Ile	
			275					280					285				
	Gly	Leu	Glu	Leu	Phe	Ile	Gly	Lys	Met	His	Lys	Thr	Cys	Phe	Phe	Ala	
		290					295					300					
55	Asp	Ser	Asp	Ile	Val	Ala	Glu	Glu	Asp	Pro	Ala	Pro	Cys	Ala	Phe	Ser	
	305					310					315					320	
	Gly	Asn	Gly	Arg	Gln	Cys	Thr	Ala	Asn	Gly	Thr	Glu	Cys	Arg	Ser	Gly	
60					325					330					335		
	Trp	Val	Gly	Pro	Asn	Gly	Gly	Ile	Thr	Asn	Phe	Asp	Asn	Phe	Ala	Phe	
				340					345					350			



	Ala	Met	Leu	Thr	Val	Phe	Gln	Cys	Ile	Thr	Met	Glu	Gly	Trp	Thr	Asp	
			355					360					365				
5	Val	Leu	Tyr	Trp	Val	Asn	Asp	Ala	Ile	Gly	Trp	Glu	Trp	Pro	Trp	Val	
		370					375					380					
	Tyr	Phe	Val	Ser	Leu	Ile	Ile	Leu	Gly	Ser	Phe	Phe	Val	Leu	Asn	Leu	
	385					390					395					400	
10	Val	Leu	Gly	Val	Leu	Ser	Gly	Glu	Phe	Ser	Lys	Glu	Arg	Glu	Lys	Ala	
					405					410					415		
	Lys	Ala	Arg	Gly	Asp	Phe	Gln	Lys	Leu	Arg	Glu	Lys	Gln	Gln	Leu	Glu	
15				420					425					430			
	Glu	Asp	Leu	Lys	Gly	Tyr	Leu	Asp	Trp	Ile	Thr	Gln	Ala	Glu	Asp	Ile	
			435					440					445				
20	Asp	Pro	Glu	Asn	Glu	Glu	Glu	Gly	Gly	Glu	Glu	Gly	Lys	Arg	Asn	Thr	
		450					455					460					
	Ser	Met	Pro	Thr	Ser	Glu	Thr	Glu	Ser	Val	Asn	Thr	Glu	Asn	Val	Ser	
	465					470					475					480	
25	Gly	Glu	Gly	Glu	Asn	Arg	Gly	Cys	Cys	Gly	Ser	Leu	Trp	Cys	Trp	Trp	
					485					490					495		
	Arg	Arg	Arg	Gly	Ala	Ala	Lys	Ala	Gly	Pro	Ser	Gly	Cys	Arg	Arg	Trp	
30				500					505					510			
	Gly	Gln	Ala	Ile	Ser	Lys	Ser	Lys	Leu	Ser	Arg	Arg	Trp	Arg	Arg	Trp	
			515					520					525				
35	Asn	Arg	Phe	Asn	Arg	Arg	Arg	Cys	Arg	Ala	Ala	Val	Lys	Ser	Val	Thr	
		530					535					540					
	Phe	Tyr	Trp	Leu	Val	Ile	Val	Leu	Val	Phe	Leu	Asn	Thr	Leu	Thr	Ile	
	545					550					555					560	
40	Ser	Ser	Glu	His	Tyr	Asn	Gln	Pro	Asp	Trp	Leu	Thr	Gln	Ile	Gln	Asp	
					565					570					575		
	Ile	Ala	Asn	Lys	Val	Leu	Leu	Ala	Leu	Phe	Thr	Cys	Glu	Met	Leu	Val	
45				580					585					590			
	Lys	Met	Tyr	Ser	Leu	Gly	Leu	Gln	Ala	Tyr	Phe	Val	Ser	Leu	Phe	Asn	
			595					600					605				
50	Arg	Phe	Asp	Cys	Phe	Val	Val	Cys	Gly	Gly	Ile	Thr	Glu	Thr	Ile	Leu	
		610					615					620					
	Val	Glu	Leu	Glu	Ile	Met	Ser	Pro	Leu	Gly	Ile	Ser	Val	Phe	Arg	Cys	
	625					630					635					640	
55	Val	Arg	Leu	Leu	Arg	Ile	Phe	Lys	Val	Thr	Arg	His	Trp	Thr	Ser	Leu	
					645					650					655		
	Ser	Asn	Leu	Val	Ala	Ser	Leu	Leu	Asn	Ser	Met	Lys	Ser	Ile	Ala	Ser	
60				660					665					670			
	Leu	Leu	Leu	Leu	Leu	Phe	Leu	Phe	Ile	Ile	Ile	Phe	Ser	Leu	Leu	Gly	
				675				680					685				

	Met	Gln	Leu	Phe	Gly	Gly	Lys	Phe	Asn	Phe	Asp	Glu	Thr	Gln	Thr	Lys	
	690						695										700
5	Arg	Ser	Thr	Phe	Asp	Asn	Phe	Pro	Gln	Ala	Leu	Leu	Thr	Val	Phe	Gln	
	705					710					715					720	
	Ile	Leu	Thr	Gly	Glu	Asp	Trp	Asn	Ala	Val	Met	Tyr	Asp	Gly	Ile	Met	
					725					730					735		
10	Ala	Tyr	Gly	Gly	Pro	Ser	Ser	Ser	Gly	Met	Ile	Val	Cys	Ile	Tyr	Phe	
				740					745					750			
	Ile	Ile	Leu	Phe	Ile	Cys	Gly	Asn	Tyr	Ile	Leu	Leu	Asn	Val	Phe	Leu	
15			755					760					765				
	Ala	Ile	Ala	Val	Asp	Asn	Leu	Ala	Asp	Ala	Glu	Ser	Leu	Asn	Thr	Ala	
			770				775						780				
20	Gln	Lys	Glu	Glu	Ala	Glu	Glu	Lys	Glu	Arg	Lys	Lys	Ile	Ala	Arg	Lys	
	785					790					795					800	
	Glu	Ser	Leu	Glu	Asn	Lys	Lys	Asn	Asn	Lys	Pro	Glu	Val	Asn	Gln	Ile	
					805					810					815		
25	Ala	Asn	Ser	Asp	Asn	Lys	Val	Thr	Ile	Asp	Asp	Tyr	Arg	Glu	Glu	Asp	
				820					825					830			
	Glu	Asp	Lys	Asp	Pro	Tyr	Pro	Pro	Cys	Asp	Val	Pro	Val	Gly	Glu	Glu	
30			835					840					845				
	Glu	Glu	Glu	Glu	Glu	Glu	Asp	Glu	Pro	Glu	Val	Pro	Ala	Gly	Pro	Arg	
			850				855					860					
35	Pro	Arg	Arg	Ile	Ser	Glu	Leu	Asn	Met	Lys	Glu	Lys	Ile	Ala	Pro	Ile	
	865					870					875					880	
	Pro	Glu	Gly	Ser	Ala	Phe	Phe	Ile	Leu	Ser	Lys	Thr	Asn	Pro	Ile	Arg	
				885					890					895			
40	Val	Gly	Cys	His	Lys	Leu	Ile	Asn	His	His	Ile	Phe	Thr	Asn	Leu	Ile	
				900					905					910			
	Leu	Val	Phe	Ile	Met	Leu	Ser	Ser	Ala	Ala	Leu	Ala	Ala	Glu	Asp	Pro	
45			915					920					925				
	Ile	Arg	Ser	His	Ser	Phe	Arg	Asn	Thr	Ile	Leu	Gly	Tyr	Phe	Asp	Tyr	
		930					935					940					
50	Ala	Phe	Thr	Ala	Ile	Phe	Thr	Val	Glu	Ile	Leu	Leu	Lys	Met	Thr	Thr	
	945					950					955					960	
	Phe	Gly	Ala	Phe	Leu	His	Lys	Gly	Ala	Phe	Cys	Arg	Asn	Tyr	Phe	Asn	
				965					970					975			
55	Leu	Leu	Asp	Met	Leu	Val	Val	Gly	Val	Ser	Leu	Val	Ser	Phe	Gly	Ile	
				980				985					990				
	Gln	Ser	Ser	Ala	Ile	Ser	Val	Val	Lys	Ile	Leu	Arg	Val	Leu	Arg	Val	
60			995					1000					1005				
	Leu	Arg	Pro	Leu	Arg	Ala	Ile	Asn	Arg	Ala	Lys	Gly	Leu	Lys	His		
		1010					1015					1020					

	Val	Val	Gln	Cys	Val	Phe	Val	Ala	Ile	Arg	Thr	Ile	Gly	Asn	Ile
	1025						1030					1035			
5	Met	Ile	Val	Thr	Thr	Leu	Leu	Gln	Phe	Met	Phe	Ala	Cys	Ile	Gly
	1040						1045					1050			
	Val	Gln	Leu	Phe	Lys	Gly	Lys	Phe	Tyr	Arg	Cys	Thr	Asp	Glu	Ala
	1055						1060					1065			
10	Lys	Ser	Asn	Pro	Glu	Glu	Cys	Arg	Gly	Leu	Phe	Ile	Leu	Tyr	Lys
	1070						1075					1080			
	Asp	Gly	Asp	Val	Asp	Ser	Pro	Val	Val	Arg	Glu	Arg	Ile	Trp	Gln
15	1085						1090					1095			
	Asn	Ser	Asp	Phe	Asn	Phe	Asp	Asn	Val	Leu	Ser	Ala	Met	Met	Ala
	1100						1105					1110			
20	Leu	Phe	Thr	Val	Ser	Thr	Phe	Glu	Gly	Trp	Pro	Ala	Leu	Leu	Tyr
	1115						1120					1125			
	Lys	Ala	Ile	Asp	Ser	Asn	Gly	Glu	Asn	Ile	Gly	Pro	Ile	Tyr	Asn
	1130						1135					1140			
25	His	Arg	Val	Glu	Ile	Ser	Ile	Phe	Phe	Ile	Ile	Tyr	Ile	Ile	Ile
	1145						1150					1155			
	Val	Ala	Phe	Phe	Met	Met	Asn	Ile	Phe	Val	Gly	Phe	Val	Ile	Val
30	1160						1165					1170			
	Thr	Phe	Gln	Glu	Gln	Gly	Glu	Lys	Glu	Tyr	Lys	Asn	Cys	Glu	Leu
	1175						1180					1185			
35	Asp	Lys	Asn	Gln	Arg	Gln	Cys	Val	Glu	Tyr	Ala	Leu	Lys	Ala	Arg
	1190						1195					1200			
	Pro	Leu	Arg	Arg	Tyr	Ile	Pro	Lys	Asn	Pro	Tyr	Gln	Tyr	Lys	Phe
	1205						1210					1215			
40	Trp	Tyr	Val	Val	Asn	Ser	Ser	Pro	Phe	Glu	Tyr	Met	Met	Phe	Val
	1220						1225					1230			
	Leu	Ile	Met	Leu	Asn	Thr	Leu	Cys	Leu	Ala	Met	Gln	His	Tyr	Glu
45	1235						1240					1245			
	Gln	Ser	Lys	Met	Phe	Asn	Asp	Ala	Met	Asp	Ile	Leu	Asn	Met	Val
	1250						1255					1260			
50	Phe	Thr	Gly	Val	Phe	Thr	Val	Glu	Met	Val	Leu	Lys	Val	Ile	Ala
	1265						1270					1275			
	Phe	Lys	Pro	Lys	Gly	Tyr	Phe	Ser	Asp	Ala	Trp	Asn	Thr	Phe	Asp
	1280						1285					1290			
55	Ser	Leu	Ile	Val	Ile	Gly	Ser	Ile	Ile	Asp	Val	Ala	Leu	Ser	Glu
	1295						1300					1305			
	Ala	Asp	Asn	Ser	Glu	Glu	Ser	Asn	Arg	Ile	Ser	Ile	Thr	Phe	Phe
60	1310						1315					1320			
	Arg	Leu	Phe	Arg	Val	Met	Arg	Leu	Val	Lys	Leu	Leu	Ser	Arg	Gly
	1325						1330					1335			

	Glu Gly	Ile Arg Thr Leu Leu	Trp Thr Phe Ile Lys	Ser Phe Gln
	1340	1345	1350	
5	Ala Leu	Pro Tyr Val Ala Leu	Leu Ile Ala Met Leu	Phe Phe Ile
	1355	1360	1365	
	Tyr Ala	Val Ile Gly Met Gln	Met Phe Gly Lys Val	Ala Met Arg
	1370	1375	1380	
10	Asp Asn	Asn Gln Ile Asn Arg	Asn Asn Asn Phe Gln	Thr Phe Pro
	1385	1390	1395	
	Gln Ala	Val Leu Leu Leu Phe	Arg Cys Ala Thr Gly	Glu Ala Trp
15	1400	1405	1410	
	Gln Glu	Ile Met Leu Ala Cys	Leu Pro Gly Lys Leu	Cys Asp Pro
	1415	1420	1425	
20	Glu Ser	Asp Tyr Asn Pro Gly	Glu Glu Tyr Thr Cys	Gly Ser Asn
	1430	1435	1440	
	Phe Ala	Ile Val Tyr Phe Ile	Ser Phe Tyr Met Leu	Cys Ala Phe
	1445	1450	1455	
25	Leu Ile	Ile Asn Leu Phe Val	Ala Val Ile Met Asp	Asn Phe Asp
	1460	1465	1470	
	Tyr Leu	Thr Arg Asp Trp Ser	Ile Leu Gly Pro His	His Leu Asp
30	1475	1480	1485	
	Glu Phe	Lys Arg Ile Trp Ser	Glu Tyr Asp Pro Glu	Ala Lys Gly
	1490	1495	1500	
35	Arg Ile	Lys His Leu Asp Val	Val Thr Leu Leu Arg	Arg Ile Gln
	1505	1510	1515	
	Pro Pro	Leu Gly Phe Gly Lys	Leu Cys Pro His Arg	Val Ala Cys
	1520	1525	1530	
40	Lys Arg	Leu Val Ala Met Asn	Met Pro Leu Asn Ser	Asp Gly Thr
	1535	1540	1545	
	Val Met	Phe Asn Ala Thr Leu	Phe Ala Leu Val Arg	Thr Ala Leu
45	1550	1555	1560	
	Lys Ile	Lys Thr Glu Gly Asn	Leu Glu Gln Ala Asn	Glu Glu Leu
	1565	1570	1575	
50	Arg Ala	Val Ile Lys Lys Ile	Trp Lys Lys Thr Ser	Met Lys Leu
	1580	1585	1590	
	Leu Asp	Gln Val Val Pro Pro	Ala Gly Asp Asp Glu	Val Thr Val
	1595	1600	1605	
55	Gly Lys	Phe Tyr Ala Thr Phe	Leu Ile Gln Asp Tyr	Phe Arg Lys
	1610	1615	1620	
	Phe Lys	Lys Arg Lys Glu Gln	Gly Leu Val Gly Lys	Tyr Pro Ala
60	1625	1630	1635	
	Lys Asn	Thr Thr Ile Ala Leu	Gln Ala Gly Leu Arg	Thr Leu His
	1640	1645	1650	

	Asp	Ile	Gly	Pro	Glu	Ile	Arg	Arg	Ala	Ile	Ser	Cys	Asp	Leu	Gln
	1655						1660					1665			
5	Asp	Asp	Glu	Pro	Glu	Glu	Thr	Lys	Arg	Glu	Glu	Glu	Asp	Asp	Val
	1670						1675					1680			
	Phe	Lys	Arg	Asn	Gly	Ala	Leu	Leu	Gly	Asn	His	Val	Asn	His	Val
	1685						1690					1695			
10	Asn	Ser	Asp	Arg	Arg	Asp	Ser	Leu	Gln	Gln	Thr	Asn	Thr	Thr	His
	1700						1705					1710			
	Arg	Pro	Leu	His	Val	Gln	Arg	Pro	Ser	Ile	Pro	Pro	Ala	Ser	Asp
15	1715						1720					1725			
	Thr	Glu	Lys	Pro	Leu	Phe	Pro	Pro	Ala	Gly	Asn	Ser	Val	Cys	His
	1730						1735					1740			
20	Asn	His	His	Asn	His	Asn	Ser	Ile	Gly	Lys	Gln	Val	Pro	Thr	Ser
	1745						1750					1755			
	Thr	Asn	Ala	Asn	Leu	Asn	Asn	Ala	Asn	Met	Ser	Lys	Ala	Ala	His
25	1760						1765					1770			
	Gly	Lys	Arg	Pro	Ser	Ile	Gly	Asn	Leu	Glu	His	Val	Ser	Glu	Asn
	1775						1780					1785			
30	Gly	His	His	Ser	Ser	His	Lys	His	Asp	Arg	Glu	Pro	Gln	Arg	Arg
	1790						1795					1800			
	Ser	Ser	Val	Lys	Arg	Thr	Arg	Tyr	Tyr	Glu	Thr	Tyr	Ile	Arg	Ser
	1805						1810					1815			
35	Asp	Ser	Gly	Asp	Glu	Gln	Leu	Pro	Thr	Ile	Cys	Arg	Glu	Asp	Pro
	1820						1825					1830			
	Glu	Ile	His	Gly	Tyr	Phe	Arg	Asp	Pro	His	Cys	Leu	Gly	Glu	Gln
40	1835						1840					1845			
	Glu	Tyr	Phe	Ser	Ser	Glu	Glu	Cys	Tyr	Glu	Asp	Asp	Ser	Ser	Pro
	1850						1855					1860			
45	Thr	Trp	Ser	Arg	Gln	Asn	Tyr	Gly	Tyr	Tyr	Ser	Arg	Tyr	Pro	Gly
	1865						1870					1875			
	Arg	Asn	Ile	Asp	Ser	Glu	Arg	Pro	Arg	Gly	Tyr	His	His	Pro	Gln
	1880						1885					1890			
50	Gly	Phe	Leu	Glu	Asp	Asp	Asp	Ser	Pro	Val	Cys	Tyr	Asp	Ser	Arg
	1895						1900					1905			
	Arg	Ser	Pro	Arg	Arg	Arg	Leu	Leu	Pro	Pro	Thr	Pro	Ala	Ser	His
55	1910						1915					1920			
	Arg	Arg	Ser	Ser	Phe	Asn	Phe	Glu	Cys	Leu	Arg	Arg	Gln	Ser	Ser
	1925						1930					1935			
60	Gln	Glu	Glu	Val	Pro	Ser	Ser	Pro	Ile	Phe	Pro	His	Arg	Thr	Ala
	1940						1945					1950			
	Leu	Pro	Leu	His	Leu	Met	Gln	Gln	Gln	Ile	Met	Ala	Val	Ala	Gly
	1955						1960					1965			

	Leu Asp Ser Ser Lys Ala Gln Lys Tyr Ser Pro Ser His Ser Thr	
	1970 1975 1980	
5	Arg Ser Trp Ala Thr Pro Pro Ala Thr Pro Pro Tyr Arg Asp Trp	
	1985 1990 1995	
	Thr Pro Cys Tyr Thr Pro Leu Ile Gln Val Glu Gln Ser Glu Ala	
	2000 2005 2010	
10	Leu Asp Gln Val Asn Gly Ser Leu Pro Ser Leu His Arg Ser Ser	
	2015 2020 2025	
	Trp Tyr Thr Asp Glu Pro Asp Ile Ser Tyr Arg Thr Phe Thr Pro	
	2030 2035 2040	
15	Ala Ser Leu Thr Val Pro Ser Ser Phe Arg Asn Lys Asn Ser Asp	
	2045 2050 2055	
20	Lys Gln Arg Ser Ala Asp Ser Leu Val Glu Ala Val Leu Ile Ser	
	2060 2065 2070	
	Glu Gly Leu Gly Arg Tyr Ala Arg Asp Pro Lys Phe Val Ser Ala	
	2075 2080 2085	
25	Thr Lys His Glu Ile Ala Asp Ala Cys Asp Leu Thr Ile Asp Glu	
	2090 2095 2100	
	Met Glu Ser Ala Ala Ser Thr Leu Leu Asn Gly Asn Val Arg Pro	
	2105 2110 2115	
30	Arg Ala Asn Gly Asp Val Gly Pro Leu Ser His Arg Gln Asp Tyr	
	2120 2125 2130	
35	Glu Leu Gln Asp Phe Gly Pro Gly Tyr Ser Asp Glu Glu Pro Asp	
	2135 2140 2145	
	Pro Gly Arg Asp Glu Glu Asp Leu Ala Asp Glu Met Ile Cys Ile	
	2150 2155 2160	
40	Thr Thr Leu	
	2165	
45	<210> 5	
	<211> 557	
	<212> DNA	
	<213> Homo sapiens	
50	<220>	
	<221> partial_cDNA	
	<222> (1)..(557)	
55	<400> 5	
	ctgattgtca tcggcagcat cattgacgtc atcctcagtg agatcgacga ccccgacgag	60
	agtgcccgc tctccagcgc cttcttcgc ctgttcggg tcatgagggt gatcaagctg	120
60	ctgagccgcg ccgagggcgt gcgcacgctg ctccggacct tcatcaagtc cttccaggcc	180
	ctgccctacg tggtctgtgt catcgatcgt ctcttcttca tctatgctgt catcggcgtg	240
	cagatgtttg ggaagatcgc catggtggac ggaaccacaga taaaccggaa caacaatttc	300

cagaccttcc ctcaggctgt gctgctgctc ttcagggtgcg ccacgggtga ggcgtggcag 360  
 gagatcctgc tggcctgcag gtacgggcag ctgtgcgacc ccgagtcaga ctacctccct 420  
 5 ggggaggagt atacctgcgg caccgacttc gcctactact acttcatcag cttctacatg 480  
 ctctgtgcct tcctgatcat caacctcttt gtggctgtga tcatggacaa ttttgactac 540  
 10 ctcacccgga ctggtcc 557  
  
 <210> 6  
 <211> 553  
 15 <212> DNA  
 <213> Homo sapiens  
  
 <220>  
 20 <221> partial\_cDNA  
 <222> (1)..(553)  
  
 <220>  
 <221> misc\_feature  
 25 <222> (1)..(553)  
 <223> n is dATP, dCTP, dGTP, or dTTP  
  
 <400> 6  
 30 ctcacgttaa tcggcagcat tatagacgtg gccctcagcg aagcagacaa ctctgaagag 60  
 agcaatagaa tctccatcac ctttttccgt cttttccgag tgatgcgatt ggtgaagctt 120  
 ctcagcaggg gggaaggcat ccggacattg ctgtggactt ttattaagtc ctttcaggcg 180  
 35 ctcccgatg tggccctcct catagccatg ctgttcttca tctatgcggt cattggcatg 240  
 cagatgtttg ggaaagttgc catgagagat aacaaccaga tcaataggaa caataacttc 300  
 cagacgtttc cccaggcggt gctgctgctc ttcagggtgtg caacagggtga ggcctggcag 360  
 40 gagatcatgc tggcctgtct cccagggaag ctctgtgacc ctgagtcaga ttacaacctc 420  
 ggggaggagt atacatgtgg gagcaacttt gccattgtct atttcatcag nttttacatg 480  
 45 ctctgtgcat ttctgacatc aatctgtttg gtggctgtca tcatggataa tttcgactat 540  
 ctgaccccnng gac 553  
  
 50 <210> 7  
 <211> 498  
 <212> DNA  
 <213> pig  
  
 55 <220>  
 <221> partial\_cDNA  
 <222> (1)..(498)  
  
 60 <400> 7  
 tggaatgtgt tcgacttcct gattgtcatc ggcagcatca ttgacgtcat cctcagtgag 60  
 atcgacgacc ccgacgagag tgcccgcatc tccagcgctt tcttccgctt gttccgggtc 120

```

atgagggttga tcaagctgct gagccgcgcc gagggcgtgc gcacgctgct ctggaccttc 180
atcaagtccct tccaggccct gccctacgtg gctctgctca tcgtcatgct cttcttcatc 240
5  tatgctgtca tcggcatgca gatgtttggg aagatcgcca tggcggacgg aaccagata 300
aaccggaaca acaatttcca gaccttcctt caggctgtgc tgctgctctt cagggtgcgc 360
10 acgggtgagg cgtggcagga gatcctgctg gcctgcaggt acgggcagct gtgcgacccc 420
gagtcagact acctccctgg ggaggagtat acctgcggca ccgacttcgc ctactactac 480
ttcatcagct tctacatg 498

15  <210> 8
    <211> 573
    <212> DNA
    <213> pig
20
    <220>
    <221> partial_cDNA
    <222> (1)..(573)
25
    <220>
    <221> misc_feature
    <222> (1)..(573)
    <223> n is dATP, dCTP, dGTP, or dTTP
30
    <220>
    <221> misc_feature
    <222> (1)..(573)
    <223> Xaa is any amino acid
35
    <400> 8
    tggcgggatg acctggtcca ggagcttcat gctggttctc ttccagatct tcttgataat 60
ggccctcagc tcctcgttgg cctgctcaaa gttaccttcc gtcttgatct tgagtgccgt 120
40  tgcggaccagg gcgaagaggg tggcattgaa ggtgaccgag ccacgcctat tcaggggcat 180
gttcatgccc accagccgct tacatgccac ccggtgtgga caaaatttcc caaagcccag 240
45  agggggctgg atccttctca gcagggtcac cacgtccagg tgcttgattc tgcccttagc 300
ttctgggtcg tactctgccc agatggcctt gaactcgtcc aggtgatgtg ggcccaggat 360
ggaccagtcc cgggtgaggt agtcaaaatt gtccatgac acagccacaa agaggttgat 420
50  gatcaggaag gcacagagca tgtagaagct gatgaagtag tagtaggcga agtcgggtgcc 480
cgcaggtata ctctcccca gggaggtagt ctgactcggg gtcgcacagc ttgccgtacc 540
55  tgcaggccan caggatctcc tgcacgcctt acc 573

    <210> 9
    <211> 6615
    <212> DNA
    <213> Homo sapiens
60
    <220>

```



```

<221> CDS
<222> (2282)..(6298)

<220>
5 <221> misc_feature
  <222> (2282)..(6298)
  <223> n is dATP, dCTP, dGTP, or dTTP

<400> 9
10 caggccccggc agcgggggagc cgagtggagg ctaattttac ttgctgggag cgaggagagt 60
   aatcctcctg cccccactcc tgcccccgcc ccctggctgg ctccagcaggg caggctcagc 120
   cgacagcctc agccagccta gtccccaagg cgggggcatt ggggacacag ggaagggaaa 180
15 gcactgggggt gggggagcag gagaaaagcca gattcccagg gaagccatgg agccatcctc 240
   accccaggat gaaggcctga ggaagaaaca gcccaagaag ccagttcctg agattctgcc 300
20 aaggccaccc cgggccttgt tctgcctgac cctggagaac ccctgagga aggccctgcat 360
   cagcattgta gaatggaagc ctttcgagac gatcatcttg ctccaccatct ttgccaatg 420
   tgtggccctg gccgtgtacc tgcccatgcc ggaagatgac aacaactctc tgaacctcgg 480
25 cctggagaag ctggagtatt tcttctcat tgtcttctcg attgaagccg ccatgaagat 540
   cattgcctac ggcttcttat tccaccagga cgcttacctg cgcagtggct ggaatgtgct 600
30 ggacttcacc attgtcttcc tgggggtctt caccgtgatt ctggacaagg ttaacgtcat 660
   ccaaagccac acagcccat gagcagcaa ggagccggct tggatgtcaa ggcctcaga 720
   gccttccgag tgctcagacc cctccggctg gtgtcggggg tgccctagcct gcagggtggc 780
35 ctgaactcca tcttcaaggc catgctcccc ctctttcaca tcgccctgct ggtcctcttt 840
   atggtcatca tctatgccat catcgggctg gagctcttca agggcaagat gcacaagacc 900
40 tgctacttca ttggtacaga tatcgtggcc acgggtggaga atgaagagcc atcgccctgc 960
   gccaggacgg gctcagggcg ccggtgcacc atcaatggca gtgagtgccg gggcggtg 1020
   ccagggccca accatggcat caccacttc gacaacttcg gcttctccat gctcaccgtg 1080
45 taccagtgca ttaccatgga gggatggact gacgtccttt actgggtcaa tgatgccatc 1140
   gggaatgagt ggccttgat ctattttgtc accctcatth tgctgggatc cttcttcac 1200
50 ctcaacctgg tgctgggtgt cctgagtggg gaattcacca aggagcggga gaaggccaag 1260
   tccaggggaa cttccagaa gctccgggag aagcagcaac tagatgagga ccttcggggc 1320
   tacatgagct ggatcacgca gggcgaggtc atggatgttg aggacttcag agaaggaaaa 1380
55 ctgtctttgg atgaaggtgg ctctgacaca gagagcctgt atgaaattgc aggcttgaac 1440
   aaaatcatcc agttcatccg acattggagg cagtggaaac gcatctttcg ctggaaagtgc 1500
60 catgacatcg tgaagtccaa ggtcttctat tggctgggtga ttctcatcgt tgccctcaac 1560
   accctgtcta tcgcctcaga gcaccacaac cagcctctct ggctgacctg tttgcaagac 1620
   attgccaacc ggggtgctgct gtccctcttc accactgaga tgctgatgaa gatgtacggg 1680

```

	ctgggcctgc gccagtactt catgtctatc ttcaaccgct tcgactgctt cgtggtgtgc	1740
5	agcggtatcc tggagatcct gctggtggag tcgggcgcca tgacaccctt gggcatctcc	1800
	gtgctccgct gcatccgcct cctgaggatc ttcaagatca ccaaattattg gacgtcgtcg	1860
	agcaacctgg tggcatccct gctcaactcc atccgctcca tcgcctccct gctgctgtcg	1920
10	ctcttctctt tcatcgatc \cttcgccctc ctgggcatgc agctctttgg ggggaggtat	1980
	gactttgaag acacagaagt acggcgcagc aactttgaca actttcccca agccctcatc	2040
15	agcgtcttcc aggtactgac aggggaagac tggacctcaa tgatgtacaa tgggatcatg	2100
	gcctacggcg ggccgtccta ccctggcatg cttgtgtgca tttacttcat catccttttc	2160
	gtctgtggca actacatcct gctcaatgtc ttctgggcca ttgccgtgga caacctggcc	2220
20	gaggcggaga gcctgacttc tgcccagaac ggccaaggct gaggagaaaa aacgcaggaa	2280
	g atg tcc aag ggt ctc cca gac aag tca gaa gag gag aag tca acg atg	2329
	Met Ser Lys Gly Leu Pro Asp Lys Ser Glu Glu Glu Lys Ser Thr Met	
25	1 5 10 15	
	gcc aag aag ctg gag cag aaa ccc aag ggt gag ggc atc ccc acc act	2377
	Ala Lys Lys Leu Glu Gln Lys Pro Lys Gly Glu Gly Ile Pro Thr Thr	
	20 25 30	
30	gcc aag ctg ana atc gat gag ttn gaa tct aat gtc aat gag gtg aag	2425
	Ala Lys Leu Xaa Ile Asp Glu Xaa Glu Ser Asn Val Asn Glu Val Lys	
	35 40 45	
35	gat ccc tac ccc tca gcc gac ttc cca ggg gat gac gag gaa gat gag	2473
	Asp Pro Tyr Pro Ser Ala Asp Phe Pro Gly Asp Asp Glu Glu Asp Glu	
	50 55 60	
40	cct gag atc ccg ctg agc ccc cga cca cgt ccc ctg gct gag ctg cag	2521
	Pro Glu Ile Pro Leu Ser Pro Arg Pro Arg Pro Leu Ala Glu Leu Gln	
	65 70 75 80	
	ctg aaa gag aag gcc gtg ccc att cca gaa gcc agc tcc ttc ttc atc	2569
	Leu Lys Glu Lys Ala Val Pro Ile Pro Glu Ala Ser Ser Phe Phe Ile	
45	85 90 95	
	ttc agc ccc acc aat aag atc cgt gtc ctg tgt cac cgc atc gtc aat	2617
	Phe Ser Pro Thr Asn Lys Ile Arg Val Leu Cys His Arg Ile Val Asn	
	100 105 110	
50	gcc acc tgg ttc acc aac ttc atc ctg ctc ttc atc ctg ctc agc agc	2665
	Ala Thr Trp Phe Thr Asn Phe Ile Leu Leu Phe Ile Leu Leu Ser Ser	
	115 120 125	
55	gct gca ctg gct gcg gaa gac ccc atc cgg gct gat tcc atg aga aat	2713
	Ala Ala Leu Ala Ala Glu Asp Pro Ile Arg Ala Asp Ser Met Arg Asn	
	130 135 140	
60	cag atc ctt aaa cac ttt gac atc ggg ttc acc tct gtc ttc act gtg	2761
	Gln Ile Leu Lys His Phe Asp Ile Gly Phe Thr Ser Val Phe Thr Val	
	145 150 155 160	
	gag att gtc ctc aag atg acg acc tac gga gcc ttc ctg cac aag ggt	2809
	Glu Ile Val Leu Lys Met Thr Thr Tyr Gly Ala Phe Leu His Lys Gly	
	165 170 175	

	tcc ttc tgc cgc aat tac ttc aac atg ctg gac ctg ctg gtg gtg gcc	2857
	Ser Phe Cys Arg Asn Tyr Phe Asn Met Leu Asp Leu Leu Val Val Ala	
	180 185 190	
5	gtg tcc ctc atc tcc atg gga ctt gag tcc agt gcc atc tcc gtg gtg	2905
	Val Ser Leu Ile Ser Met Gly Leu Glu Ser Ser Ala Ile Ser Val Val	
	195 200 205	
10	aag atc ctg agg gtg ctg agg gtg ctc cga cca ctc aga gcc atc aac	2953
	Lys Ile Leu Arg Val Leu Arg Val Leu Arg Pro Leu Arg Ala Ile Asn	
	210 215 220	
15	aga gcc aag ggg ttg aag gtg agn nnn nnn nnn nnn nnn nnn nnn	3001
	Arg Ala Lys Gly Leu Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa	
	225 230 235 240	
20	nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn	3049
	Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa	
	245 250 255	
25	nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn	3097
	Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa	
	260 265 270	
30	nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn	3145
	Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa	
	275 280 285	
35	nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn	3193
	Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa	
	290 295 300	
40	nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn tgc cac agg ggc tac	3241
	Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa	
	305 310 315 320	
45	nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn tgc cac agg ggc tac	3289
	Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa	
	325 330 335	
50	tac tac gtg tac aag gac ggg gac ccc atg cag ata gag ctg cgt cac	3337
	Tyr Tyr Val Tyr Lys Asp Gly Asp Pro Met Gln Ile Glu Leu Arg His	
	340 345 350	
55	cgc gag tgg gta cac agc gac ttc cac ttc gac aat gtg ctc tca gcc	3385
	Arg Glu Trp Val His Ser Asp Phe His Phe Asp Asn Val Leu Ser Ala	
	355 360 365	
60	atg atg tcc ctc ttc acg gtc tcc acc ttc gag gga tgg cct cag ctg	3433
	Met Met Ser Leu Phe Thr Val Ser Thr Phe Glu Gly Trp Pro Gln Leu	
	370 375 380	
65	ctg tac aag gcc ata gac tcc aat gcg gag gac gtg ggt ccc atc tac	3481
	Leu Tyr Lys Ala Ile Asp Ser Asn Ala Glu Asp Val Gly Pro Ile Tyr	
	385 390 395 400	
70	aac aac cgt gtg gag atg gcc atc ttc ttc atc atc tac atc atc ctc	3529
	Asn Asn Arg Val Glu Met Ala Ile Phe Phe Ile Ile Tyr Ile Ile Leu	
	405 410 415	
75	att gcc ttc ttc atg atg aac atc ttt gtg ggc ttc gtc att gtc acc	3577
	Ile Ala Phe Phe Met Met Asn Ile Phe Val Gly Phe Val Ile Val Thr	
	420 425 430	

	ttc cag gag cag gga gag act gag tac aag aac tgt gag ctg gac aag	3625
	Phe Gln Glu Gln Gly Glu Thr Glu Tyr Lys Asn Cys Glu Leu Asp Lys	
	435 440 445	
5	aac cag cgc caa tgt gta cag tat gcc ctg aag gcc cgc cca ctg agg	3673
	Asn Gln Arg Gln Cys Val Gln Tyr Ala Leu Lys Ala Arg Pro Leu Arg	
	450 455 460	
10	tgc tac att ccc aaa aac cca tac cag tac cag gtg tgg tac att gtc	3721
	Cys Tyr Ile Pro Lys Asn Pro Tyr Gln Tyr Gln Val Trp Tyr Ile Val	
	465 470 475 480	
15	acc tcc tcc tac ttt gaa tac ctg atg ttt gcc ctc atc atg ctc aac	3769
	Thr Ser Ser Tyr Phe Glu Tyr Leu Met Phe Ala Leu Ile Met Leu Asn	
	485 490 495	
20	acc atc tgc ctc ggc atg cag cac tac aac cag tcg gag cag atg aac	3817
	Thr Ile Cys Leu Gly Met Gln His Tyr Asn Gln Ser Glu Gln Met Asn	
	500 505 510	
25	cac atc tca gac atc ctc aat gtg gcc ttc act atc atc ttc acc ctg	3865
	His Ile Ser Asp Ile Leu Asn Val Ala Phe Thr Ile Ile Phe Thr Leu	
	515 520 525	
30	gag atg atc ctc aag ctc atg gcc ttc aag gcc agg ggc tac ttt gga	3913
	Glu Met Ile Leu Lys Leu Met Ala Phe Lys Ala Arg Gly Tyr Phe Gly	
	530 535 540	
35	gat gtc atc ctc agt gag atc gac act ttc ctg gcc tcc agc ggg gga	4009
	Asp Val Ile Leu Ser Glu Ile Asp Thr Phe Leu Ala Ser Ser Gly Gly	
	565 570 575	
40	ctg tat tgc ctg ggt gga ggc tgc ggg aac gtt gac cca gat gag agt	4057
	Leu Tyr Cys Leu Gly Gly Gly Cys Gly Asn Val Asp Pro Asp Glu Ser	
	580 585 590	
45	gcc cgc atc tcc agc gcc ttc ttc cgc ctg ttc cgt gtc atg agg ctg	4105
	Ala Arg Ile Ser Ser Ala Phe Phe Arg Leu Phe Arg Val Met Arg Leu	
	595 600 605	
50	atc aag ctg ctg agc cgg gca gaa gga gtg cga acc ctc ctg tgg acg	4153
	Ile Lys Leu Leu Ser Arg Ala Glu Gly Val Arg Thr Leu Leu Trp Thr	
	610 615 620	
55	ttc atc aag tcc ttc cag gcc cta ccc tac gtg gct ctg ctc atc gtc	4201
	Phe Ile Lys Ser Phe Gln Ala Leu Pro Tyr Val Ala Leu Leu Ile Val	
	625 630 635 640	
60	atg ctc ttc ttc atc tac gct gtc atc ggc atg cag atg ttt ggg aag	4249
	Met Leu Phe Phe Ile Tyr Ala Val Ile Gly Met Gln Met Phe Gly Lys	
	645 650 655	
65	atc gcc ttg gtg gat ggg acc caa ata aac cgg aac aac aac ttc cag	4297
	Ile Ala Leu Val Asp Gly Thr Gln Ile Asn Arg Asn Asn Asn Phe Gln	
	660 665 670	
70	acc ttc cca caa gct gtg cta ctg ctc ttc agg tgt gca aca ggt gag	4345
	Thr Phe Pro Gln Ala Val Leu Leu Leu Phe Arg Cys Ala Thr Gly Glu	
	675 680 685	

	gcc tgg cag gag atc cta ctg gcc tgc agc tat ggg aag ctg tgt gac	4393
	Ala Trp Gln Glu Ile Leu Leu Ala Cys Ser Tyr Gly Lys Leu Cys Asp	
	690 695 700	
5		
	cca gag tgc gac tat gcc cca ggg gag gag tac aca tgt ggc acc aac	4441
	Pro Glu Ser Asp Tyr Ala Pro Gly Glu Glu Tyr Thr Cys Gly Thr Asn	
	705 710 715 720	
10		
	ttt gca tac tac tac ttc atc agc ttc tac atg ctc tgt gcc ttc ctg	4489
	Phe Ala Tyr Tyr Tyr Phe Ile Ser Phe Tyr Met Leu Cys Ala Phe Leu	
	725 730 735	
15		
	gtc atc aac ctc ttt gtg gct gtc atc atg gac aat ttt gac tac ctc	4537
	Val Ile Asn Leu Phe Val Ala Val Ile Met Asp Asn Phe Asp Tyr Leu	
	740 745 750	
20		
	acc cgg gac tgg tcc atc ctg ggc cct cat cac ctg gat gag ttc aag	4585
	Thr Arg Asp Trp Ser Ile Leu Gly Pro His His Leu Asp Glu Phe Lys	
	755 760 765	
25		
	gcc atc tgg gca gag tat gac cca gag gct aag ggg aga atc aaa cac	4633
	Ala Ile Trp Ala Glu Tyr Asp Pro Glu Ala Lys Gly Arg Ile Lys His	
	770 775 780	
30		
	ctg gac gtg gtg acc ctg ctg aga agg att cag ccc cct ctg ggc ttt	4681
	Leu Asp Val Val Thr Leu Leu Arg Arg Ile Gln Pro Pro Leu Gly Phe	
	785 790 795 800	
35		
	ggg aag ttc tgc cca cat cgg gta gct tgt aag cgg ctg gtg ggc atg	4729
	Gly Lys Phe Cys Pro His Arg Val Ala Cys Lys Arg Leu Val Gly Met	
	805 810 815	
40		
	aac atg ccc ctg aac agc gac ggc aca gtc acc ttc aat gcc aca ctc	4777
	Asn Met Pro Leu Asn Ser Asp Gly Thr Val Thr Phe Asn Ala Thr Leu	
	820 825 830	
45		
	ttt gcc ctg gtc cgc acg gca ctc aag atc aag acg gaa ggt aac ttt	4825
	Phe Ala Leu Val Arg Thr Ala Leu Lys Ile Lys Thr Glu Gly Asn Phe	
	835 840 845	
50		
	gag cag gcc aac gag gag ctg agg gcc atc atc aag aag atc tgg aag	4873
	Glu Gln Ala Asn Glu Glu Leu Arg Ala Ile Ile Lys Lys Ile Trp Lys	
	850 855 860	
55		
	aga acc agc atg aag ctc ttg gac cag gtc atc cct cca ata gga gat	4921
	Arg Thr Ser Met Lys Leu Leu Asp Gln Val Ile Pro Pro Ile Gly Asp	
	865 870 875 880	
60		
	gat gag gtg aca gtg ggg aag ttc tac gcc aca ttc ctc atc cag gag	4969
	Asp Glu Val Thr Val Gly Lys Phe Tyr Ala Thr Phe Leu Ile Gln Glu	
	885 890 895	
65		
	cac ttc cgg aag ttc atg aaa cgc caa gag gag tat tat ggc tat cgg	5017
	His Phe Arg Lys Phe Met Lys Arg Gln Glu Glu Tyr Tyr Gly Tyr Arg	
	900 905 910	
70		
	ccc aag aag gac att gta cag atc cag gca ggg ctg cgg acc att gag	5065
	Pro Lys Lys Asp Ile Val Gln Ile Gln Ala Gly Leu Arg Thr Ile Glu	
	915 920 925	
75		
	gaa gag gca gcc ccc gag atc tgt cgc acg gtc tca gga gac ctg gct	5113
	Glu Glu Ala Ala Pro Glu Ile Cys Arg Thr Val Ser Gly Asp Leu Ala	
	930 935 940	



	gga ctg ctg acc cag agg gca atg ccc aga ggc cag gca cct cct	5890
	Gly Leu Leu Thr Gln Arg Ala Met Pro Arg Gly Gln Ala Pro Pro	
	1190 1195 1200	
5		
	gcc ccc tgc cag tgc ccc agg gtg gag tcc tcc atg cct gag gac	5935
	Ala Pro Cys Gln Cys Pro Arg Val Glu Ser Ser Met Pro Glu Asp	
	1205 1210 1215	
10		
	aga aag agc tcc aca cca ggg tct ctt cat gag gag aca ccc cac	5980
	Arg Lys Ser Ser Thr Pro Gly Ser Leu His Glu Glu Thr Pro His	
	1220 1225 1230	
15		
	agc agg agc acc agg gag aat act tcc agg tgc tca gca cca gct	6025
	Ser Arg Ser Ser Thr Arg Glu Asn Thr Ser Arg Cys Ser Ala Pro Ala	
	1235 1240 1245	
20		
	aca gcc ctg ctg atc caa aag gct ctg gtt cga ggg ggc ctg ggc	6070
	Thr Ala Leu Leu Ile Gln Lys Ala Leu Val Arg Gly Gly Leu Gly	
	1250 1255 1260	
25		
	acc ttg gca gct gat gca aac ttc atc atg gca aca ggc cag gcc	6115
	Thr Leu Ala Ala Asp Ala Asn Phe Ile Met Ala Thr Gly Gln Ala	
	1265 1270 1275	
30		
	ctg gca gat gcc tgc caa atg gaa cca gag gaa gtg gag atc atg	6160
	Leu Ala Asp Ala Cys Gln Met Glu Pro Glu Glu Val Glu Ile Met	
	1280 1285 1290	
35		
	gca aca gag cta ctg aaa gga cga gag gcc cca gag ggc atg gcc	6205
	Ala Thr Glu Leu Leu Lys Gly Arg Glu Ala Pro Glu Gly Met Ala	
	1295 1300 1305	
40		
	agc tcc ctg gga tgc ctg aac ctc ggg tcc tcc ctg ggc agc ctc	6250
	Ser Ser Leu Gly Cys Leu Asn Leu Gly Ser Ser Leu Gly Ser Leu	
	1310 1315 1320	
45		
	gac caa cac cag ggc tcc cag gag acc ctt att cct cca agg ctg	6295
	Asp Gln His Gln Gly Ser Gln Glu Thr Leu Ile Pro Pro Arg Leu	
	1325 1330 1335	
50		
	tga tgccacaca gcatcagcat gggcttagag ctggcatgac caatgggggt	6348
	ggggaagttg ctgggggtgga gaagggttag cccaccgcag cagcctccct ccctctcagc	6408
	agctagatgc atggcctgag gcagggtggt caggaaccac ctcaaaaagt gcgagggaag	6468
	tagctggaca ggccctgccc ctcaccagca agaggcatga ttggatggag cttctaattgt	6528
	cattcaaaaa ggcttggtca gtgcctgtct ggcctagggc cactcccacc tgcaggacat	6588
	taaaatctcc aggcctgtga cactggc	6615
55	<210> 10	
	<211> 1338	
	<212> PRT	
	<213> Homo sapiens	
60	<220>	
	<221> misc_feature	
	<222> (36)..(36)	
	<223> The 'Xaa' at location 36 stands for Lys, Arg, Thr, or Ile.	

<220>  
 <221> misc\_feature  
 <222> (40)..(40)  
 5 <223> The 'Xaa' at location 40 stands for Leu, or Phe.  
  
 <220>  
 <221> misc\_feature  
 <222> (232)..(232)  
 10 <223> The 'Xaa' at location 232 stands for Arg, or Ser.  
  
 <220>  
 <221> misc\_feature  
 <222> (233)..(233)  
 15 <223> The 'Xaa' at location 233 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.  
  
 <220>  
 <221> misc\_feature  
 <222> (234)..(234)  
 20 <223> The 'Xaa' at location 234 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.  
  
 <220>  
 <221> misc\_feature  
 <222> (235)..(235)  
 25 <223> The 'Xaa' at location 235 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 30 Cys, or Phe.  
  
 <220>  
 <221> misc\_feature  
 <222> (236)..(236)  
 35 <223> The 'Xaa' at location 236 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.  
  
 <220>  
 <221> misc\_feature  
 <222> (237)..(237)  
 40 <223> The 'Xaa' at location 237 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 45 Cys, or Phe.  
  
 <220>  
 <221> misc\_feature  
 <222> (238)..(238)  
 50 <223> The 'Xaa' at location 238 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.  
  
 <220>  
 <221> misc\_feature  
 <222> (239)..(239)  
 55 <223> The 'Xaa' at location 239 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.  
  
 <220>  
 <221> misc\_feature  
 <222> (240)..(240)  
 60 <223> The 'Xaa' at location 240 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,



Cys, or Phe.

<220>  
<221> misc\_feature  
5 <222> (241)..(241)  
<223> The 'Xaa' at location 241 stands for Lys, Asn, Arg, Ser, Thr,  
Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
Cys, or Phe.

10 <220>  
<221> misc\_feature  
<222> (242)..(242)  
<223> The 'Xaa' at location 242 stands for Lys, Asn, Arg, Ser, Thr,  
Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
15 Cys, or Phe.

<220>  
<221> misc\_feature  
<222> (243)..(243)  
20 <223> The 'Xaa' at location 243 stands for Lys, Asn, Arg, Ser, Thr,  
Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
Cys, or Phe.

<220>  
25 <221> misc\_feature  
<222> (244)..(244)  
<223> The 'Xaa' at location 244 stands for Lys, Asn, Arg, Ser, Thr,  
Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
Cys, or Phe.

30 <220>  
<221> misc\_feature  
<222> (245)..(245)  
35 <223> The 'Xaa' at location 245 stands for Lys, Asn, Arg, Ser, Thr,  
Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
Cys, or Phe.

<220>  
<221> misc\_feature  
40 <222> (246)..(246)  
<223> The 'Xaa' at location 246 stands for Lys, Asn, Arg, Ser, Thr,  
Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
Cys, or Phe.

45 <220>  
<221> misc\_feature  
<222> (247)..(247)  
<223> The 'Xaa' at location 247 stands for Lys, Asn, Arg, Ser, Thr,  
Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
50 Cys, or Phe.

<220>  
<221> misc\_feature  
<222> (248)..(248)  
55 <223> The 'Xaa' at location 248 stands for Lys, Asn, Arg, Ser, Thr,  
Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
Cys, or Phe.

<220>  
60 <221> misc\_feature  
<222> (249)..(249)  
<223> The 'Xaa' at location 249 stands for Lys, Asn, Arg, Ser, Thr,  
Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (250)..(250)  
 5 <223> The 'Xaa' at location 250 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 10 <221> misc\_feature  
 <222> (251)..(251)  
 <223> The 'Xaa' at location 251 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

15  
 <220>  
 <221> misc\_feature  
 <222> (252)..(252)  
 20 <223> The 'Xaa' at location 252 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 25 <221> misc\_feature  
 <222> (253)..(253)  
 <223> The 'Xaa' at location 253 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

30 <220>  
 <221> misc\_feature  
 <222> (254)..(254)  
 <223> The 'Xaa' at location 254 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 35 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (255)..(255)  
 40 <223> The 'Xaa' at location 255 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 45 <221> misc\_feature  
 <222> (256)..(256)  
 <223> The 'Xaa' at location 256 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

50  
 <220>  
 <221> misc\_feature  
 <222> (257)..(257)  
 55 <223> The 'Xaa' at location 257 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 60 <221> misc\_feature  
 <222> (258)..(258)  
 <223> The 'Xaa' at location 258 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (259)..(259)  
 5 <223> The 'Xaa' at location 259 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 10 <221> misc\_feature  
 <222> (260)..(260)  
 <223> The 'Xaa' at location 260 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

15  
 <220>  
 <221> misc\_feature  
 <222> (261)..(261)  
 20 <223> The 'Xaa' at location 261 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 25 <221> misc\_feature  
 <222> (262)..(262)  
 <223> The 'Xaa' at location 262 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

30 <220>  
 <221> misc\_feature  
 <222> (263)..(263)  
 <223> The 'Xaa' at location 263 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 35 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (264)..(264)  
 40 <223> The 'Xaa' at location 264 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 45 <221> misc\_feature  
 <222> (265)..(265)  
 <223> The 'Xaa' at location 265 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

50  
 <220>  
 <221> misc\_feature  
 <222> (266)..(266)  
 55 <223> The 'Xaa' at location 266 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 60 <221> misc\_feature  
 <222> (267)..(267)  
 <223> The 'Xaa' at location 267 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (268)..(268)  
 5 <223> The 'Xaa' at location 268 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 10 <221> misc\_feature  
 <222> (269)..(269)  
 <223> The 'Xaa' at location 269 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

15 <220>  
 <221> misc\_feature  
 <222> (270)..(270)  
 20 <223> The 'Xaa' at location 270 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 25 <221> misc\_feature  
 <222> (271)..(271)  
 <223> The 'Xaa' at location 271 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

30 <220>  
 <221> misc\_feature  
 <222> (272)..(272)  
 <223> The 'Xaa' at location 272 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 35 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (273)..(273)  
 40 <223> The 'Xaa' at location 273 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 45 <221> misc\_feature  
 <222> (274)..(274)  
 <223> The 'Xaa' at location 274 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

50 <220>  
 <221> misc\_feature  
 <222> (275)..(275)  
 <223> The 'Xaa' at location 275 stands for Lys, Asn, Arg, Ser, Thr,  
 55 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 60 <221> misc\_feature  
 <222> (276)..(276)  
 <223> The 'Xaa' at location 276 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (277)..(277)  
 5 <223> The 'Xaa' at location 277 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 10 <221> misc\_feature  
 <222> (278)..(278)  
 <223> The 'Xaa' at location 278 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

15  
 <220>  
 <221> misc\_feature  
 <222> (279)..(279)  
 20 <223> The 'Xaa' at location 279 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 25 <221> misc\_feature  
 <222> (280)..(280)  
 <223> The 'Xaa' at location 280 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

30 <220>  
 <221> misc\_feature  
 <222> (281)..(281)  
 <223> The 'Xaa' at location 281 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 35 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (282)..(282)  
 40 <223> The 'Xaa' at location 282 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 45 <221> misc\_feature  
 <222> (283)..(283)  
 <223> The 'Xaa' at location 283 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

50  
 <220>  
 <221> misc\_feature  
 <222> (284)..(284)  
 55 <223> The 'Xaa' at location 284 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 60 <221> misc\_feature  
 <222> (285)..(285)  
 <223> The 'Xaa' at location 285 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (286)..(286)  
 5 <223> The 'Xaa' at location 286 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 10 <221> misc\_feature  
 <222> (287)..(287)  
 <223> The 'Xaa' at location 287 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

15  
 <220>  
 <221> misc\_feature  
 <222> (288)..(288)  
 20 <223> The 'Xaa' at location 288 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 25 <221> misc\_feature  
 <222> (289)..(289)  
 <223> The 'Xaa' at location 289 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

30 <220>  
 <221> misc\_feature  
 <222> (290)..(290)  
 <223> The 'Xaa' at location 290 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 35 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (291)..(291)  
 40 <223> The 'Xaa' at location 291 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 45 <221> misc\_feature  
 <222> (292)..(292)  
 <223> The 'Xaa' at location 292 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

50  
 <220>  
 <221> misc\_feature  
 <222> (293)..(293)  
 <223> The 'Xaa' at location 293 stands for Lys, Asn, Arg, Ser, Thr,  
 55 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 60 <221> misc\_feature  
 <222> (294)..(294)  
 <223> The 'Xaa' at location 294 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (295)..(295)  
 5 <223> The 'Xaa' at location 295 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 10 <221> misc\_feature  
 <222> (296)..(296)  
 <223> The 'Xaa' at location 296 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

15  
 <220>  
 <221> misc\_feature  
 <222> (297)..(297)  
 20 <223> The 'Xaa' at location 297 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 25 <221> misc\_feature  
 <222> (298)..(298)  
 <223> The 'Xaa' at location 298 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

30 <220>  
 <221> misc\_feature  
 <222> (299)..(299)  
 <223> The 'Xaa' at location 299 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 35 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (300)..(300)  
 40 <223> The 'Xaa' at location 300 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 45 <221> misc\_feature  
 <222> (301)..(301)  
 <223> The 'Xaa' at location 301 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

50  
 <220>  
 <221> misc\_feature  
 <222> (302)..(302)  
 <223> The 'Xaa' at location 302 stands for Lys, Asn, Arg, Ser, Thr,  
 55 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 60 <221> misc\_feature  
 <222> (303)..(303)  
 <223> The 'Xaa' at location 303 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (304)..(304)  
 5 <223> The 'Xaa' at location 304 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 10 <221> misc\_feature  
 <222> (305)..(305)  
 <223> The 'Xaa' at location 305 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

15  
 <220>  
 <221> misc\_feature  
 <222> (306)..(306)  
 20 <223> The 'Xaa' at location 306 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 25 <221> misc\_feature  
 <222> (307)..(307)  
 <223> The 'Xaa' at location 307 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

30 <220>  
 <221> misc\_feature  
 <222> (308)..(308)  
 <223> The 'Xaa' at location 308 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 35 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (309)..(309)  
 40 <223> The 'Xaa' at location 309 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 45 <221> misc\_feature  
 <222> (310)..(310)  
 <223> The 'Xaa' at location 310 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

50  
 <220>  
 <221> misc\_feature  
 <222> (311)..(311)  
 55 <223> The 'Xaa' at location 311 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 60 <221> misc\_feature  
 <222> (312)..(312)  
 <223> The 'Xaa' at location 312 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.



<220>  
 <221> misc\_feature  
 <222> (313)..(313)  
 5 <223> The 'Xaa' at location 313 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 10 <221> misc\_feature  
 <222> (314)..(314)  
 <223> The 'Xaa' at location 314 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

15  
 <220>  
 <221> misc\_feature  
 <222> (315)..(315)  
 20 <223> The 'Xaa' at location 315 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 25 <221> misc\_feature  
 <222> (316)..(316)  
 <223> The 'Xaa' at location 316 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

30 <220>  
 <221> misc\_feature  
 <222> (317)..(317)  
 <223> The 'Xaa' at location 317 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 35 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (318)..(318)  
 40 <223> The 'Xaa' at location 318 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 45 <221> misc\_feature  
 <222> (319)..(319)  
 <223> The 'Xaa' at location 319 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

50  
 <220>  
 <221> misc\_feature  
 <222> (320)..(320)  
 <223> The 'Xaa' at location 320 stands for Lys, Asn, Arg, Ser, Thr,  
 55 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 60 <221> misc\_feature  
 <222> (321)..(321)  
 <223> The 'Xaa' at location 321 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (322)..(322)  
 5 <223> The 'Xaa' at location 322 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 10 <221> misc\_feature  
 <222> (323)..(323)  
 <223> The 'Xaa' at location 323 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

15  
 <220>  
 <221> misc\_feature  
 <222> (324)..(324)  
 20 <223> The 'Xaa' at location 324 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 25 <221> misc\_feature  
 <222> (325)..(325)  
 <223> The 'Xaa' at location 325 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

30 <220>  
 <221> misc\_feature  
 <222> (326)..(326)  
 <223> The 'Xaa' at location 326 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 35 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (327)..(327)  
 40 <223> The 'Xaa' at location 327 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 45 <221> misc\_feature  
 <222> (328)..(328)  
 <223> The 'Xaa' at location 328 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

50  
 <220>  
 <221> misc\_feature  
 <222> (329)..(329)  
 55 <223> The 'Xaa' at location 329 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 60 <221> misc\_feature  
 <222> (330)..(330)  
 <223> The 'Xaa' at location 330 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (331)..(331)  
 5 <223> The 'Xaa' at location 331 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1076)..(1076)  
 10 <223> The 'Xaa' at location 1076 stands for Gln, His, Arg, Pro, or Leu.

<220>  
 <221> misc\_feature  
 <222> (1077)..(1077)  
 15 <223> The 'Xaa' at location 1077 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

20  
 <220>  
 <221> misc\_feature  
 <222> (1078)..(1078)  
 25 <223> The 'Xaa' at location 1078 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1079)..(1079)  
 30 <223> The 'Xaa' at location 1079 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

35 <220>  
 <221> misc\_feature  
 <222> (1080)..(1080)  
 <223> The 'Xaa' at location 1080 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 40 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1081)..(1081)  
 45 <223> The 'Xaa' at location 1081 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1082)..(1082)  
 50 <223> The 'Xaa' at location 1082 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

55  
 <220>  
 <221> misc\_feature  
 <222> (1083)..(1083)  
 60 <223> The 'Xaa' at location 1083 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature

<222> (1084)..(1084)  
 <223> The 'Xaa' at location 1084 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.  
 5  
 <220>  
 <221> misc\_feature  
 <222> (1085)..(1085)  
 <223> The 'Xaa' at location 1085 stands for Lys, Asn, Arg, Ser, Thr,  
 10 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.  
 <220>  
 <221> misc\_feature  
 15 <222> (1086)..(1086)  
 <223> The 'Xaa' at location 1086 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.  
 20 <220>  
 <221> misc\_feature  
 <222> (1087)..(1087)  
 <223> The 'Xaa' at location 1087 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 25 Cys, or Phe.  
 <220>  
 <221> misc\_feature  
 <222> (1088)..(1088)  
 30 <223> The 'Xaa' at location 1088 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.  
 <220>  
 <221> misc\_feature  
 35 <222> (1089)..(1089)  
 <223> The 'Xaa' at location 1089 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.  
 40 <220>  
 <221> misc\_feature  
 <222> (1090)..(1090)  
 <223> The 'Xaa' at location 1090 stands for Lys, Asn, Arg, Ser, Thr,  
 45 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.  
 <220>  
 <221> misc\_feature  
 50 <222> (1091)..(1091)  
 <223> The 'Xaa' at location 1091 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.  
 55 <220>  
 <221> misc\_feature  
 <222> (1092)..(1092)  
 <223> The 'Xaa' at location 1092 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 60 Cys, or Phe.  
 <220>  
 <221> misc\_feature  
 <222> (1093)..(1093)

<223> The 'Xaa' at location 1093 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

5    <220>  
      <221> misc\_feature  
      <222> (1094)..(1094)  
      <223> The 'Xaa' at location 1094 stands for Lys, Asn, Arg, Ser, Thr,  
 10        Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
           Cys, or Phe.

     <220>  
      <221> misc\_feature  
      <222> (1095)..(1095)  
 15    <223> The 'Xaa' at location 1095 stands for Lys, Asn, Arg, Ser, Thr,  
           Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
           Cys, or Phe.

     <220>  
      <221> misc\_feature  
      <222> (1096)..(1096)  
 20    <223> The 'Xaa' at location 1096 stands for Lys, Asn, Arg, Ser, Thr,  
           Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
           Cys, or Phe.

25    <220>  
      <221> misc\_feature  
      <222> (1097)..(1097)  
      <223> The 'Xaa' at location 1097 stands for Lys, Asn, Arg, Ser, Thr,  
 30        Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
           Cys, or Phe.

     <220>  
      <221> misc\_feature  
      <222> (1098)..(1098)  
 35    <223> The 'Xaa' at location 1098 stands for Lys, Asn, Arg, Ser, Thr,  
           Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
           Cys, or Phe.

40    <220>  
      <221> misc\_feature  
      <222> (1099)..(1099)  
      <223> The 'Xaa' at location 1099 stands for Lys, Asn, Arg, Ser, Thr,  
 45        Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
           Cys, or Phe.

     <220>  
      <221> misc\_feature  
      <222> (1100)..(1100)  
 50    <223> The 'Xaa' at location 1100 stands for Lys, Asn, Arg, Ser, Thr,  
           Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
           Cys, or Phe.

     <220>  
      <221> misc\_feature  
      <222> (1101)..(1101)  
 55    <223> The 'Xaa' at location 1101 stands for Lys, Asn, Arg, Ser, Thr,  
           Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
           Cys, or Phe.

60    <220>  
      <221> misc\_feature  
      <222> (1102)..(1102)  
      <223> The 'Xaa' at location 1102 stands for Lys, Asn, Arg, Ser, Thr,

Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

5     <220>  
       <221> misc\_feature  
       <222> (1103)..(1103)  
       <223> The 'Xaa' at location 1103 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

10     <220>  
       <221> misc\_feature  
       <222> (1104)..(1104)  
       <223> The 'Xaa' at location 1104 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

15     <220>  
       <221> misc\_feature  
       <222> (1105)..(1105)  
       <223> The 'Xaa' at location 1105 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

20     <220>  
       <221> misc\_feature  
       <222> (1106)..(1106)  
       <223> The 'Xaa' at location 1106 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

25     <220>  
       <221> misc\_feature  
       <222> (1107)..(1107)  
       <223> The 'Xaa' at location 1107 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

30     <220>  
       <221> misc\_feature  
       <222> (1108)..(1108)  
       <223> The 'Xaa' at location 1108 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

35     <220>  
       <221> misc\_feature  
       <222> (1109)..(1109)  
       <223> The 'Xaa' at location 1109 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

40     <220>  
       <221> misc\_feature  
       <222> (1110)..(1110)  
       <223> The 'Xaa' at location 1110 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

45     <220>  
       <221> misc\_feature  
       <222> (1111)..(1111)  
       <223> The 'Xaa' at location 1111 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

50     <220>  
       <221> misc\_feature  
       <222> (1112)..(1112)  
       <223> The 'Xaa' at location 1112 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

55     <220>  
       <221> misc\_feature  
       <222> (1113)..(1113)  
       <223> The 'Xaa' at location 1113 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

60     <220>  
       <221> misc\_feature  
       <222> (1114)..(1114)  
       <223> The 'Xaa' at location 1114 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

Cys, or Phe.

5     <220>  
       <221> misc\_feature  
       <222> (1112)..(1112)  
       <223> The 'Xaa' at location 1112 stands for Lys, Asn, Arg, Ser, Thr,  
               Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
               Cys, or Phe.

10    <220>  
       <221> misc\_feature  
       <222> (1113)..(1113)  
       <223> The 'Xaa' at location 1113 stands for Lys, Asn, Arg, Ser, Thr,  
               Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
               Cys, or Phe.

15    <220>  
       <221> misc\_feature  
       <222> (1114)..(1114)  
       <223> The 'Xaa' at location 1114 stands for Lys, Asn, Arg, Ser, Thr,  
               Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
               Cys, or Phe.

20    <220>  
       <221> misc\_feature  
       <222> (1115)..(1115)  
       <223> The 'Xaa' at location 1115 stands for Lys, Asn, Arg, Ser, Thr,  
               Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
               Cys, or Phe.

25    <220>  
       <221> misc\_feature  
       <222> (1116)..(1116)  
       <223> The 'Xaa' at location 1116 stands for Lys, Asn, Arg, Ser, Thr,  
               Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
               Cys, or Phe.

30    <220>  
       <221> misc\_feature  
       <222> (1117)..(1117)  
       <223> The 'Xaa' at location 1117 stands for Lys, Asn, Arg, Ser, Thr,  
               Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
               Cys, or Phe.

35    <220>  
       <221> misc\_feature  
       <222> (1118)..(1118)  
       <223> The 'Xaa' at location 1118 stands for Lys, Asn, Arg, Ser, Thr,  
               Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
               Cys, or Phe.

40    <220>  
       <221> misc\_feature  
       <222> (1119)..(1119)  
       <223> The 'Xaa' at location 1119 stands for Lys, Asn, Arg, Ser, Thr,  
               Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
               Cys, or Phe.

45    <220>  
       <221> misc\_feature  
       <222> (1120)..(1120)  
       <223> The 'Xaa' at location 1120 stands for Lys, Asn, Arg, Ser, Thr,  
               Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
               Cys, or Phe.

50    <220>  
       <221> misc\_feature  
       <222> (1121)..(1121)  
       <223> The 'Xaa' at location 1121 stands for Lys, Asn, Arg, Ser, Thr,  
               Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
               Cys, or Phe.

55    <220>  
       <221> misc\_feature  
       <222> (1122)..(1122)  
       <223> The 'Xaa' at location 1122 stands for Lys, Asn, Arg, Ser, Thr,  
               Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
               Cys, or Phe.

60    <220>  
       <221> misc\_feature  
       <222> (1123)..(1123)  
       <223> The 'Xaa' at location 1123 stands for Lys, Asn, Arg, Ser, Thr,  
               Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
               Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1121)..(1121)  
 5 <223> The 'Xaa' at location 1121 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 10 <221> misc\_feature  
 <222> (1122)..(1122)  
 <223> The 'Xaa' at location 1122 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

15  
 <220>  
 <221> misc\_feature  
 <222> (1123)..(1123)  
 20 <223> The 'Xaa' at location 1123 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 25 <221> misc\_feature  
 <222> (1124)..(1124)  
 <223> The 'Xaa' at location 1124 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

30 <220>  
 <221> misc\_feature  
 <222> (1125)..(1125)  
 <223> The 'Xaa' at location 1125 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 35 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1126)..(1126)  
 40 <223> The 'Xaa' at location 1126 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 45 <221> misc\_feature  
 <222> (1127)..(1127)  
 <223> The 'Xaa' at location 1127 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

50  
 <220>  
 <221> misc\_feature  
 <222> (1128)..(1128)  
 55 <223> The 'Xaa' at location 1128 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 60 <221> misc\_feature  
 <222> (1129)..(1129)  
 <223> The 'Xaa' at location 1129 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.



<220>  
 <221> misc\_feature  
 <222> (1130)..(1130)  
 5 <223> The 'Xaa' at location 1130 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 10 <221> misc\_feature  
 <222> (1131)..(1131)  
 <223> The 'Xaa' at location 1131 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

15  
 <220>  
 <221> misc\_feature  
 <222> (1132)..(1132)  
 20 <223> The 'Xaa' at location 1132 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 25 <221> misc\_feature  
 <222> (1133)..(1133)  
 <223> The 'Xaa' at location 1133 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

30 <220>  
 <221> misc\_feature  
 <222> (1134)..(1134)  
 <223> The 'Xaa' at location 1134 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 35 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1135)..(1135)  
 40 <223> The 'Xaa' at location 1135 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 45 <221> misc\_feature  
 <222> (1136)..(1136)  
 <223> The 'Xaa' at location 1136 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

50  
 <220>  
 <221> misc\_feature  
 <222> (1137)..(1137)  
 55 <223> The 'Xaa' at location 1137 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 60 <221> misc\_feature  
 <222> (1138)..(1138)  
 <223> The 'Xaa' at location 1138 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1139)..(1139)  
 5 <223> The 'Xaa' at location 1139 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 10 <221> misc\_feature  
 <222> (1140)..(1140)  
 <223> The 'Xaa' at location 1140 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

15  
 <220>  
 <221> misc\_feature  
 <222> (1141)..(1141)  
 20 <223> The 'Xaa' at location 1141 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 25 <221> misc\_feature  
 <222> (1142)..(1142)  
 <223> The 'Xaa' at location 1142 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

30 <220>  
 <221> misc\_feature  
 <222> (1143)..(1143)  
 <223> The 'Xaa' at location 1143 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 35 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1144)..(1144)  
 40 <223> The 'Xaa' at location 1144 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 45 <221> misc\_feature  
 <222> (1145)..(1145)  
 <223> The 'Xaa' at location 1145 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

50  
 <220>  
 <221> misc\_feature  
 <222> (1146)..(1146)  
 55 <223> The 'Xaa' at location 1146 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 60 <221> misc\_feature  
 <222> (1147)..(1147)  
 <223> The 'Xaa' at location 1147 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1148)..(1148)  
 5 <223> The 'Xaa' at location 1148 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 10 <221> misc\_feature  
 <222> (1149)..(1149)  
 <223> The 'Xaa' at location 1149 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

15  
 <220>  
 <221> misc\_feature  
 <222> (1150)..(1150)  
 20 <223> The 'Xaa' at location 1150 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 25 <221> misc\_feature  
 <222> (1151)..(1151)  
 <223> The 'Xaa' at location 1151 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

30 <220>  
 <221> misc\_feature  
 <222> (1152)..(1152)  
 <223> The 'Xaa' at location 1152 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 35 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1153)..(1153)  
 40 <223> The 'Xaa' at location 1153 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 45 <221> misc\_feature  
 <222> (1154)..(1154)  
 <223> The 'Xaa' at location 1154 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

50  
 <220>  
 <221> misc\_feature  
 <222> (1155)..(1155)  
 55 <223> The 'Xaa' at location 1155 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 60 <221> misc\_feature  
 <222> (1156)..(1156)  
 <223> The 'Xaa' at location 1156 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1157)..(1157)  
 5 <223> The 'Xaa' at location 1157 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 10 <221> misc\_feature  
 <222> (1158)..(1158)  
 <223> The 'Xaa' at location 1158 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

15  
 <220>  
 <221> misc\_feature  
 <222> (1159)..(1159)  
 20 <223> The 'Xaa' at location 1159 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 25 <221> misc\_feature  
 <222> (1160)..(1160)  
 <223> The 'Xaa' at location 1160 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

30 <220>  
 <221> misc\_feature  
 <222> (1161)..(1161)  
 <223> The 'Xaa' at location 1161 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 35 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1162)..(1162)  
 40 <223> The 'Xaa' at location 1162 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 45 <221> misc\_feature  
 <222> (1163)..(1163)  
 <223> The 'Xaa' at location 1163 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

50  
 <220>  
 <221> misc\_feature  
 <222> (1164)..(1164)  
 55 <223> The 'Xaa' at location 1164 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 60 <221> misc\_feature  
 <222> (1165)..(1165)  
 <223> The 'Xaa' at location 1165 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1166)..(1166)  
 5 <223> The 'Xaa' at location 1166 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1167)..(1167)  
 10 <223> The 'Xaa' at location 1167 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1168)..(1168)  
 15 <223> The 'Xaa' at location 1168 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1169)..(1169)  
 20 <223> The 'Xaa' at location 1169 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1170)..(1170)  
 25 <223> The 'Xaa' at location 1170 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1171)..(1171)  
 30 <223> The 'Xaa' at location 1171 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1172)..(1172)  
 35 <223> The 'Xaa' at location 1172 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1173)..(1173)  
 40 <223> The 'Xaa' at location 1173 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1174)..(1174)  
 45 <223> The 'Xaa' at location 1174 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1175)..(1175)  
 50 <223> The 'Xaa' at location 1175 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1176)..(1176)  
 55 <223> The 'Xaa' at location 1176 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (1177)..(1177)  
 60 <223> The 'Xaa' at location 1177 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

```

<220>
<221> misc_feature
<222> (1175)..(1175)
5 <223> The 'Xaa' at location 1175 stands for Lys, Asn, Arg, Ser, Thr,
    Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,
    Cys, or Phe.

<400> 10
10 Met Ser Lys Gly Leu Pro Asp Lys Ser Glu Glu Glu Lys Ser Thr Met
    1          5          10          15

15 Ala Lys Lys Leu Glu Gln Lys Pro Lys Gly Glu Gly Ile Pro Thr Thr
    20          25          30

    Ala Lys Leu Xaa Ile Asp Glu Xaa Glu Ser Asn Val Asn Glu Val Lys
    35          40          45

20 Asp Pro Tyr Pro Ser Ala Asp Phe Pro Gly Asp Asp Glu Glu Asp Glu
    50          55          60

    Pro Glu Ile Pro Leu Ser Pro Arg Pro Arg Pro Leu Ala Glu Leu Gln
    65          70          75          80

25 Leu Lys Glu Lys Ala Val Pro Ile Pro Glu Ala Ser Ser Phe Phe Ile
    85          90          95

    Phe Ser Pro Thr Asn Lys Ile Arg Val Leu Cys His Arg Ile Val Asn
    100         105         110

30 Ala Thr Trp Phe Thr Asn Phe Ile Leu Leu Phe Ile Leu Leu Ser Ser
    115         120         125

35 Ala Ala Leu Ala Ala Glu Asp Pro Ile Arg Ala Asp Ser Met Arg Asn
    130         135         140

    Gln Ile Leu Lys His Phe Asp Ile Gly Phe Thr Ser Val Phe Thr Val
    145         150         155         160

40 Glu Ile Val Leu Lys Met Thr Thr Tyr Gly Ala Phe Leu His Lys Gly
    165         170         175

    Ser Phe Cys Arg Asn Tyr Phe Asn Met Leu Asp Leu Leu Val Val Ala
    180         185         190

45 Val Ser Leu Ile Ser Met Gly Leu Glu Ser Ser Ala Ile Ser Val Val
    195         200         205

50 Lys Ile Leu Arg Val Leu Arg Val Leu Arg Pro Leu Arg Ala Ile Asn
    210         215         220

    Arg Ala Lys Gly Leu Lys Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    225         230         235         240

55 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    245         250         255

    Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    260         265         270

60 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    275         280         285

```

	Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa	290	295	300
5	Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa	305	310	315 320
	Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys His Arg Gly Tyr	325	330	335
10	Tyr Tyr Val Tyr Lys Asp Gly Asp Pro Met Gln Ile Glu Leu Arg His	340	345	350
15	Arg Glu Trp Val His Ser Asp Phe His Phe Asp Asn Val Leu Ser Ala	355	360	365
	Met Met Ser Leu Phe Thr Val Ser Thr Phe Glu Gly Trp Pro Gln Leu	370	375	380
20	Leu Tyr Lys Ala Ile Asp Ser Asn Ala Glu Asp Val Gly Pro Ile Tyr	385	390	395 400
25	Asn Asn Arg Val Glu Met Ala Ile Phe Phe Ile Ile Tyr Ile Ile Leu	405	410	415
	Ile Ala Phe Phe Met Met Asn Ile Phe Val Gly Phe Val Ile Val Thr	420	425	430
30	Phe Gln Glu Gln Gly Glu Thr Glu Tyr Lys Asn Cys Glu Leu Asp Lys	435	440	445
	Asn Gln Arg Gln Cys Val Gln Tyr Ala Leu Lys Ala Arg Pro Leu Arg	450	455	460
35	Cys Tyr Ile Pro Lys Asn Pro Tyr Gln Tyr Gln Val Trp Tyr Ile Val	465	470	475 480
40	Thr Ser Ser Tyr Phe Glu Tyr Leu Met Phe Ala Leu Ile Met Leu Asn	485	490	495
	Thr Ile Cys Leu Gly Met Gln His Tyr Asn Gln Ser Glu Gln Met Asn	500	505	510
45	His Ile Ser Asp Ile Leu Asn Val Ala Phe Thr Ile Ile Phe Thr Leu	515	520	525
	Glu Met Ile Leu Lys Leu Met Ala Phe Lys Ala Arg Gly Tyr Phe Gly	530	535	540
50	Asp Pro Trp Asn Val Phe Asp Phe Leu Ile Val Ile Gly Ser Ile Ile	545	550	555 560
55	Asp Val Ile Leu Ser Glu Ile Asp Thr Phe Leu Ala Ser Ser Gly Gly	565	570	575
	Leu Tyr Cys Leu Gly Gly Gly Cys Gly Asn Val Asp Pro Asp Glu Ser	580	585	590
60	Ala Arg Ile Ser Ser Ala Phe Phe Arg Leu Phe Arg Val Met Arg Leu	595	600	605
	Ile Lys Leu Leu Ser Arg Ala Glu Gly Val Arg Thr Leu Leu Trp Thr	610	615	620

	Phe	Ile	Lys	Ser	Phe	Gln	Ala	Leu	Pro	Tyr	Val	Ala	Leu	Leu	Ile	Val	625	630	635	640
5	Met	Leu	Phe	Phe	Ile	Tyr	Ala	Val	Ile	Gly	Met	Gln	Met	Phe	Gly	Lys	645	650	655	
	Ile	Ala	Leu	Val	Asp	Gly	Thr	Gln	Ile	Asn	Arg	Asn	Asn	Asn	Phe	Gln	660	665	670	
10	Thr	Phe	Pro	Gln	Ala	Val	Leu	Leu	Leu	Phe	Arg	Cys	Ala	Thr	Gly	Glu	675	680	685	
15	Ala	Trp	Gln	Glu	Ile	Leu	Leu	Ala	Cys	Ser	Tyr	Gly	Lys	Leu	Cys	Asp	690	695	700	
	Pro	Glu	Ser	Asp	Tyr	Ala	Pro	Gly	Glu	Glu	Tyr	Thr	Cys	Gly	Thr	Asn	705	710	715	720
20	Phe	Ala	Tyr	Tyr	Tyr	Phe	Ile	Ser	Phe	Tyr	Met	Leu	Cys	Ala	Phe	Leu	725	730	735	
25	Val	Ile	Asn	Leu	Phe	Val	Ala	Val	Ile	Met	Asp	Asn	Phe	Asp	Tyr	Leu	740	745	750	
	Thr	Arg	Asp	Trp	Ser	Ile	Leu	Gly	Pro	His	His	Leu	Asp	Glu	Phe	Lys	755	760	765	
30	Ala	Ile	Trp	Ala	Glu	Tyr	Asp	Pro	Glu	Ala	Lys	Gly	Arg	Ile	Lys	His	770	775	780	
	Leu	Asp	Val	Val	Thr	Leu	Leu	Arg	Arg	Ile	Gln	Pro	Pro	Leu	Gly	Phe	785	790	795	800
35	Gly	Lys	Phe	Cys	Pro	His	Arg	Val	Ala	Cys	Lys	Arg	Leu	Val	Gly	Met	805	810	815	
40	Asn	Met	Pro	Leu	Asn	Ser	Asp	Gly	Thr	Val	Thr	Phe	Asn	Ala	Thr	Leu	820	825	830	
	Phe	Ala	Leu	Val	Arg	Thr	Ala	Leu	Lys	Ile	Lys	Thr	Glu	Gly	Asn	Phe	835	840	845	
45	Glu	Gln	Ala	Asn	Glu	Glu	Leu	Arg	Ala	Ile	Ile	Lys	Lys	Ile	Trp	Lys	850	855	860	
	Arg	Thr	Ser	Met	Lys	Leu	Leu	Asp	Gln	Val	Ile	Pro	Pro	Ile	Gly	Asp	865	870	875	880
50	Asp	Glu	Val	Thr	Val	Gly	Lys	Phe	Tyr	Ala	Thr	Phe	Leu	Ile	Gln	Glu	885	890	895	
55	His	Phe	Arg	Lys	Phe	Met	Lys	Arg	Gln	Glu	Glu	Tyr	Tyr	Gly	Tyr	Arg	900	905	910	
	Pro	Lys	Lys	Asp	Ile	Val	Gln	Ile	Gln	Ala	Gly	Leu	Arg	Thr	Ile	Glu	915	920	925	
60	Glu	Glu	Ala	Ala	Pro	Glu	Ile	Cys	Arg	Thr	Val	Ser	Gly	Asp	Leu	Ala	930	935	940	
	Ala	Glu	Glu	Glu	Leu	Glu	Arg	Ala	Met	Val	Glu	Ala	Ala	Met	Glu	Glu	945	950	955	960





	Leu Ala Asp Ala Cys Gln Met Glu Pro Glu Glu Val Glu Ile Met	
	1280 1285 1290	
5	Ala Thr Glu Leu Leu Lys Gly Arg Glu Ala Pro Glu Gly Met Ala	
	1295 1300 1305	
	Ser Ser Leu Gly Cys Leu Asn Leu Gly Ser Ser Leu Gly Ser Leu	
	1310 1315 1320	
10	Asp Gln His Gln Gly Ser Gln Glu Thr Leu Ile Pro Pro Arg Leu	
	1325 1330 1335	
15		
	<210> 11	
	<211> 6160	
20	<212> DNA	
	<213> Homo sapiens	
	<220>	
25	<221> gene	
	<222> (1)..(6160)	
	<220>	
	<221> CDS	
30	<222> (226)..(5847)	
	<400> 11	
	tcaggccggc agcgggggagc cgagtggagg ctaattttac ttgctgggag cgaggagagt	60
35	aatcctcctg cccccactc ctgccccgcc ccctggctgg ctcagcaggg cagctcagcc	120
	gacagcctca gccagcctag tccccaaaggc gggggcattg gggacacagg gaagggaaag	180
	cactgggggtg ggggagcagg agaaagccag attcccaggg aagcc atg gag cca tcc	237
40		Met Glu Pro Ser
		1
	tca ccc cag gat gaa ggc ctg agg aag aaa cag ccc aag aag cca gtt	285
45	Ser Pro Gln Asp Glu Gly Leu Arg Lys Lys Gln Pro Lys Lys Pro Val	
	5 10 15 20	
	cct gag att ctg cca agg cca ccc cgg gct ttg ttc tgc ctg acc ctg	333
	Pro Glu Ile Leu Pro Arg Pro Pro Arg Ala Leu Phe Cys Leu Thr Leu	
	25 30 35	
50		
	gag aac ccc ctg agg aag gcc tgc atc agc att gta gaa tgg aag ccc	381
	Glu Asn Pro Leu Arg Lys Ala Cys Ile Ser Ile Val Glu Trp Lys Pro	
	40 45 50	
55	ttc gag acg atc atc ttg ctc acc atc ttt gcc aat tgt gtg gcc ctg	429
	Phe Glu Thr Ile Ile Leu Leu Thr Ile Phe Ala Asn Cys Val Ala Leu	
	55 60 65	
	gcc gtg tac ctg ccc atg ccg gaa gat gac aac aac tct ctg aac ctc	477
60	Ala Val Tyr Leu Pro Met Pro Glu Asp Asp Asn Asn Ser Leu Asn Leu	
	70 75 80	
	ggc ctg gag aag ctg gag tat ttc ttc ctc att gtc ttc tcg att gaa	525
	Gly Leu Glu Lys Leu Glu Tyr Phe Phe Leu Ile Val Phe Ser Ile Glu	

	85						90						95						100	
5	gcc	gcc	atg	aag	atc	att	gcc	tac	ggc	ttc	tta	ttc	cac	cag	gac	gct	573			
	Ala	Ala	Met	Lys	Ile	Ile	Ala	Tyr	Gly	Phe	Leu	Phe	His	Gln	Asp	Ala				
					105					110					115					
10	tac	ctg	cgc	agt	ggc	tgg	aat	gtg	ctg	gac	ttc	acc	att	gtc	ttc	ctg	621			
	Tyr	Leu	Arg	Ser	Gly	Trp	Asn	Val	Leu	Asp	Phe	Thr	Ile	Val	Phe	Leu				
				120					125					130						
15	ggg	gtc	ttc	acc	gtg	att	ctg	gaa	cag	gtt	aac	gtc	atc	caa	agc	cac	669			
	Gly	Val	Phe	Thr	Val	Ile	Leu	Glu	Gln	Val	Asn	Val	Ile	Gln	Ser	His				
				135				140					145							
20	aca	gcc	cca	atg	agc	agc	aaa	gga	gcc	ggc	ttg	gat	gtc	aag	gcc	ctc	717			
	Thr	Ala	Pro	Met	Ser	Ser	Lys	Gly	Ala	Gly	Leu	Asp	Val	Lys	Ala	Leu				
		150					155					160								
25	aga	gcc	ttc	cga	gtg	ctc	aga	ccc	ctc	cgg	ctg	gtg	tcg	ggg	gtg	cct	765			
	Arg	Ala	Phe	Arg	Val	Leu	Arg	Pro	Leu	Arg	Leu	Val	Ser	Gly	Val	Pro				
	165					170					175					180				
30	agc	ctg	cag	gtg	gtc	ctg	aac	tcc	atc	ttc	aag	gcc	atg	ctc	ccc	ctc	813			
	Ser	Leu	Gln	Val	Val	Leu	Asn	Ser	Ile	Phe	Lys	Ala	Met	Leu	Pro	Leu				
					185					190					195					
35	ttt	cac	atc	gcc	ctg	ctg	gtc	ctc	ttt	atg	gtc	atc	atc	tat	gcc	atc	861			
	Phe	His	Ile	Ala	Leu	Leu	Val	Leu	Phe	Met	Val	Ile	Ile	Tyr	Ala	Ile				
				200					205					210						
40	atc	ggg	ctg	gag	ctc	ttc	aag	ggc	aag	atg	cac	aag	acc	tgc	tac	ttc	909			
	Ile	Gly	Leu	Glu	Leu	Phe	Lys	Gly	Lys	Met	His	Lys	Thr	Cys	Tyr	Phe				
			215					220					225							
45	att	ggg	aca	gat	atc	gtg	gcc	acg	gtg	gag	aat	gaa	gag	cca	tcg	ccc	957			
	Ile	Gly	Thr	Asp	Ile	Val	Ala	Thr	Val	Glu	Asn	Glu	Glu	Pro	Ser	Pro				
		230					235					240								
50	tgc	gcc	agg	acg	ggc	tca	ggg	cgc	cgg	tgc	acc	atc	aat	ggc	agt	gag	1005			
	Cys	Ala	Arg	Thr	Gly	Ser	Gly	Arg	Arg	Cys	Thr	Ile	Asn	Gly	Ser	Glu				
	245					250					255					260				
55	tgc	cgg	ggc	ggc	tgc	cca	ggg	ccc	aac	cat	ggc	atc	acc	cac	ttc	gac	1053			
	Cys	Arg	Gly	Gly	Cys	Pro	Gly	Pro	Asn	His	Gly	Ile	Thr	His	Phe	Asp				
				265						270					275					
60	aac	ttc	ggc	ttc	tcc	atg	ctc	acc	gtg	tac	cag	tgc	att	acc	atg	gag	1101			
	Asn	Phe	Gly	Phe	Ser	Met	Leu	Thr	Val	Tyr	Gln	Cys	Ile	Thr	Met	Glu				
				280					285					290						
65	gga	tgg	act	gac	gtc	ctt	tac	tgg	gtc	aat	gat	gcc	atc	ggg	aat	gag	1149			
	G																			

						345					350					355		
	5	cag Gln	caa Gln	cta Leu	gat Asp	gag Glu	gac Asp	ctt Leu	cgg Arg	ggc Gly	tac Tyr	atg Met	agc Ser	tgg Trp	atc Ile	acg Thr	cag Gln	1341
					360					365					370			
	10	ggc Gly	gag Glu	gtc Val	atg Met	gat Asp	gtt Val	gag Glu	gac Asp	ttc Phe	aga Arg	gaa Glu	gga Gly	aaa Lys	ctg Leu	tct Ser	ttg Leu	1389
					375				380					385				
		gat Asp	gaa Glu	ggt Gly	ggc Gly	tct Ser	gac Asp	aca Thr	gag Glu	agc Ser	ctg Leu	tat Tyr	gaa Glu	att Ile	gca Ala	ggc Gly	ttg Leu	1437
					390				395					400				
	15	aac Asn	aaa Lys	atc Ile	atc Ile	cag Gln	ttc Phe	atc Ile	cga Arg	cat His	tgg Trp	agg Arg	cag Gln	tgg Trp	aac Asn	cgc Arg	atc Ile	1485
							410						415				420	
	20	ttt Phe	cgc Arg	tgg Trp	aag Lys	tgc Cys	cat His	gac Asp	atc Ile	gtg Val	aag Lys	tcc Ser	aag Lys	gtc Val	ttc Phe	tat Tyr	tgg Trp	1533
						425					430					435		
	25	ctg Leu	gtg Val	att Ile	ctc Leu	atc Ile	gtt Val	gcc Ala	ctc Leu	aac Asn	acc Thr	ctg Leu	tct Ser	atc Ile	gcc Ala	tca Ser	gag Glu	1581
					440					445					450			
	30	cac His	cac His	aac Asn	cag Gln	ccg Pro	cac His	tgg Trp	ctg Leu	acc Thr	cgt Arg	ttg Leu	caa Gln	gac Asp	att Ile	gcc Ala	aac Asn	1629
					455				460					465				
		cgg Arg	gtg Val	ctg Leu	ctg Leu	tcc Ser	ctc Leu	ttc Phe	acc Thr	act Thr	gag Glu	atg Met	ctg Leu	atg Met	aag Lys	atg Met	tac Tyr	1677
					470			475					480					
	35	ggg Gly	ctg Leu	ggc Gly	ctg Leu	cgc Arg	cag Gln	tac Tyr	ttc Phe	atg Met	tct Ser	atc Ile	ttc Phe	aac Asn	cgc Arg	ttc Phe	gac Asp	1725
							490					495					500	
	40	tgc Cys	ttc Phe	gtg Val	gtg Val	tgc Cys	agc Ser	ggc Gly	atc Ile	ctg Leu	gag Glu	atc Ile	ctg Leu	ctg Leu	gtg Val	gag Glu	tcg Ser	1773
						505					510					515		
	45	ggc Gly	gcc Ala	atg Met	aca Thr	ccc Pro	ctg Leu	ggc Gly	atc Ile	tcc Ser	gtg Val	ctc Leu	cgc Arg	tgc Cys	atc Ile	cgc Arg	ctc Leu	1821
					520					525					530			
	50	ctg Leu	agg Arg	atc Ile	ttc Phe	aag Lys	atc Ile	acc Thr	aaa Lys	tat Tyr	tgg Trp	acg Thr	tcg Ser	ctg Leu	agc Ser	aac Asn	ctg Leu	1869
					535				540					545				
		gtg Val	gca Ala	tcc Ser	ctg Leu	ctc Leu	aac Asn	tcc Ser	atc Ile	cgc Arg	tcc Ser	atc Ile	gcc Ala	tcc Ser	ctg Leu	ctg Leu	ctg Leu	1917
					550			555					560					
	55	ctg Leu	ctc Leu	ttc Phe	ctc Leu	ttc Phe	atc Ile	gtc Val	atc Ile	ttc Phe	cgc Arg	ctc Leu	ctg Leu	ggc Gly	atg Met	cag Gln	ctc Leu	1965
							570					575					580	
	60	ttt Phe	ggg Gly	ggg Gly	agg Arg	tat Tyr	gac Asp	ttt Phe	gaa Glu	gac Asp	aca Thr	gaa Glu	gta Val	cgg Arg	cgc Arg	agc Ser	aac Asn	2013
						585					590					595		
		ttt Phe	gac Asp	aac Asn	ttt Phe	ccc Pro	caa Gln	gcc Ala	ctc Leu	atc Ile	agc Ser	gtc Val	ttc Phe	cag Gln	gta Val	ctg Leu	aca Thr	2061

	600	605	610	
5	ggg gaa gac tgg acc tca atg atg tac aat ggg atc atg gcc tcg agc Gly Glu Asp Trp Thr Ser Met Met Tyr Asn Gly Ile Met Ala Ser Ser 615 620 625	2109		
10	ggg ccg tcc tac cct ggc atg ctt gtg tgc att tac ttc atc atc ctt Gly Pro Ser Tyr Pro Gly Met Leu Val Cys Ile Tyr Phe Ile Ile Leu 630 635 640	2157		
15	ttc gtc tgt ggc aac tac atc ctg ctc aat gtc ttc ctg gcc att gcc Phe Val Cys Gly Asn Tyr Ile Leu Leu Asn Val Phe Leu Ala Ile Ala 645 650 655 660	2205		
20	gtg gac aac ctg gcc gag gcg gag agc ctg act tct gcc cag aag gcc Val Asp Asn Leu Ala Glu Ala Glu Ser Leu Thr Ser Ala Gln Lys Ala 665 670 675	2253		
25	aag gct gag gag aaa aaa cgc agg aag atg tcc aag ggt ctc cca gac Lys Ala Glu Lys Lys Arg Arg Lys Met Ser Lys Gly Leu Pro Asp 680 685 690	2301		
30	aag tca gaa gag gag aag tca acg atg gcc aag aag ctg gag cag aaa Lys Ser Glu Glu Glu Lys Ser Thr Met Ala Lys Lys Leu Glu Gln Lys 695 700 705	2349		
35	ccc aag ggt gag ggc atc ccc acc act gcc aag ctg aaa atc gat gag Pro Lys Gly Glu Gly Ile Pro Thr Thr Ala Lys Leu Lys Ile Asp Glu 710 715 720	2397		
40	ttt gaa tct aat gtc aat gag gtg aag gat ccc tac ccc tca gcc gac Phe Glu Ser Asn Val Asn Glu Val Lys Asp Pro Tyr Pro Ser Ala Asp 725 730 735 740	2445		
45	ttc cca ggg gat gac gag gaa gat gag cct gag atc ccg ctg agc ccc Phe Pro Gly Asp Asp Glu Glu Asp Glu Pro Glu Ile Pro Leu Ser Pro 745 750 755	2493		
50	cga cca cgt ccc ctg gct gag ctg cag ctg aaa gag aag gcc gtg ccc Arg Pro Arg Pro Leu Ala Glu Leu Gln Leu Lys Glu Lys Ala Val Pro 760 765 770	2541		
55	att cca gaa gcc agc tcc ttc ttc atc ttc agc ccc acc aat aag atc Ile Pro Glu Ala Ser Ser Phe Phe Ile Phe Ser Pro Thr Asn Lys Ile 775 780 785	2589		
60	cgt gtc ctg tgt cac cgc atc gtc aat gcc acc tgg ttc acc aac ttc Arg Val Leu Cys His Arg Ile Val Asn Ala Thr Trp Phe Thr Asn Phe 790 795 800	2637		
65	atc ctg ctc ttc atc ctg ctc agc agc gct gca ctg gct gcg gaa gac Ile Leu Leu Phe Ile Leu Leu Ser Ser Ala Ala Leu Ala Ala Glu Asp 805 810 815 820	2685		
70	ccc atc cgg gct gat tcc atg aga aat cag atc ctt aaa cac ttt gac Pro Ile Arg Ala Asp Ser Met Arg Asn Gln Ile Leu Lys His Phe Asp 825 830 835	2733		
75	atc ggg ttc acc tct gtc ttc act gtg gag att gtc ctc aag atg acg Ile Gly Phe Thr Ser Val Phe Thr Val Glu Ile Val Leu Lys Met Thr 840 845 850	2781		
80	acc tac gga gcc ttc ctg cac aag ggt tcc ttc tgc cgc aat tac ttc Thr Tyr Gly Ala Phe Leu His Lys Gly Ser Phe Cys Arg Asn Tyr Phe 855 860 865 870	2829		

	855	860	865	
5	aac atg ctg gac ctg ctg gtg gtg gcc gtg tcc ctc atc tcc atg gga Asn Met Leu Asp Leu Leu Val Val Ala Val Ser Leu Ile Ser Met Gly 870 875 880	2877		
10	ctt gag tcc agt gcc atc tcc gtg gtg aag atc ctg agg gtg ctg agg Leu Glu Ser Ser Ala Ile Ser Val Val Lys Ile Leu Arg Val Leu Arg 885 890 895 900	2925		
15	gtg ctc cga cca ctc aga gcc atc aac aga gcc aag ggg ttg aag cac Val Leu Arg Pro Leu Arg Ala Ile Asn Arg Ala Lys Gly Leu Lys His 905 910 915	2973		
20	gtg gct agg tgc atg ttc gtg gcc atc agc acc atc ggg aac atc gtg Val Ala Arg Cys Met Phe Val Ala Ile Ser Thr Ile Gly Asn Ile Val 920 925 930	3021		
25	ctg gtc act acc ctc cta cag ttc atg ttt gcc tgc atc ggc gtc cag Leu Val Thr Thr Leu Leu Gln Phe Met Phe Ala Cys Ile Gly Val Gln 935 940 945	3069		
30	ctc ttc aag ggg aag ttc ttc agg tgc acc gac ttg tcc aag atg aca Leu Phe Lys Gly Lys Phe Phe Arg Cys Thr Asp Leu Ser Lys Met Thr 950 955 960	3117		
35	gag gag gag tgc agg ggc tac tac tac gtg tac aag gac ggg gac ccc Glu Glu Glu Cys Arg Gly Tyr Tyr Tyr Val Tyr Lys Asp Gly Asp Pro 965 970 975 980	3165		
40	atg cag ata gag ctg cgt cac cgc gag tgg gta cac agc gac ttc cac Met Gln Ile Glu Leu Arg His Arg Glu Trp Val His Ser Asp Phe His 985 990 995	3213		
45	ttc gac aat gtg ctc tca gcc atg atg tcc ctc ttc acg gtc tcc Phe Asp Asn Val Leu Ser Ala Met Met Ser Leu Phe Thr Val Ser 1000 1005 1010	3258		
50	acc ttc gag gga tgg cct cag ctg ctg tac aag gcc ata gac tcc Thr Phe Glu Gly Trp Pro Gln Leu Leu Tyr Lys Ala Ile Asp Ser 1015 1020 1025	3303		
55	aat gcg gag gac gtg ggt ccc atc tac aac aac cgt gtg gag atg Asn Ala Glu Asp Val Gly Pro Ile Tyr Asn Asn Arg Val Glu Met 1030 1035 1040	3348		
60	gcc atc ttc ttc atc atc tac atc atc ctc att gcc ttc ttc atg Ala Ile Phe Phe Ile Ile Tyr Ile Ile Leu Ile Ala Phe Phe Met 1045 1050 1055	3393		
65	atg aac atc ttt gtg ggc ttc gtc att gtc acc ttc cag gag cag Met Asn Ile Phe Val Gly Phe Val Ile Val Thr Phe Gln Glu Gln 1060 1065 1070	3438		
70	gga gag act gag tac aag aac tgt gag ctg gac aag aac cag cgc Gly Glu Thr Glu Tyr Lys Asn Cys Glu Leu Asp Lys Asn Gln Arg 1075 1080 1085	3483		
75	caa tgt gta cag tat gcc ctg aag gcc cgc cca ctg agg tgc tac Gln Cys Val Gln Tyr Ala Leu Lys Ala Arg Pro Leu Arg Cys Tyr 1090 1095 1100	3528		
80	att ccc aaa aac cca tac cag tac cag gtg tgg tac att gtc acc Ile Pro Lys Asn Pro Tyr Gln Tyr Gln Val Trp Tyr Ile Val Thr	3573		

				1105					1110					1115			
		tcc	tcc	tac	ttt	gaa	tac	ctg	atg	ttt	gcc	ctc	atc	atg	ctc	aac	3618
5		Ser	Ser	Tyr	Phe	Glu	Tyr	Leu	Met	Phe	Ala	Leu	Ile	Met	Leu	Asn	
					1120					1125					1130		
		acc	atc	tgc	ctc	ggc	atg	cag	cac	tac	aac	cag	tcg	gag	cag	atg	3663
		Thr	Ile	Cys	Leu	Gly	Met	Gln	His	Tyr	Asn	Gln	Ser	Glu	Gln	Met	
10					1135					1140					1145		
		aac	cac	atc	tca	gac	atc	ctc	aat	gtg	gcc	ttc	act	atc	atc	ttc	3708
		Asn	His	Ile	Ser	Asp	Ile	Leu	Asn	Val	Ala	Phe	Thr	Ile	Ile	Phe	
					1150					1155					1160		
15		acc	ctg	gag	atg	atc	ctc	aag	ctc	atg	gcc	ttc	aag	gcc	agg	ggc	3753
		Thr	Leu	Glu	Met	Ile	Leu	Lys	Leu	Met	Ala	Phe	Lys	Ala	Arg	Gly	
					1165					1170					1175		
20		tac	ttt	gga	aac	ccc	tgg	aat	gtg	ttt	gac	ttc	ctg	att	gtc	att	3798
		Tyr	Phe	Gly	Asn	Pro	Trp	Asn	Val	Phe	Asp	Phe	Leu	Ile	Val	Ile	
					1180					1185					1190		
		ggc	agc	atc	att	gat	gtc	atc	ctc	agt	gag	atc	gac	act	ttc	ctg	3843
25		Gly	Ser	Ile	Ile	Asp	Val	Ile	Leu	Ser	Glu	Ile	Asp	Thr	Phe	Leu	
					1195					1200					1205		
		gcc	tcc	agc	ggg	gga	ctg	tat	tgc	ctg	ggg	gga	ggc	tgc	ggg	aac	3888
30		Ala	Ser	Ser	Gly	Gly	Leu	Tyr	Cys	Leu	Gly	Gly	Gly	Cys	Gly	Asn	
					1210					1215					1220		
		gtt	gac	cca	gat	gag	agt	gcc	cgc	atc	tcc	agc	gcc	ttc	ttc	cgc	3933
		Val	Asp	Pro	Asp	Glu	Ser	Ala	Arg	Ile	Ser	Ser	Ala	Phe	Phe	Arg	
					1225					1230					1235		
35		ctg	ttc	cgt	gtc	atg	agg	ctg	atc	aag	ctg	ctg	agc	cgg	gca	gaa	3978
		Leu	Phe	Arg	Val	Met	Arg	Leu	Ile	Lys	Leu	Leu	Ser	Arg	Ala	Glu	
					1240					1245					1250		
40		gga	gtg	cga	acc	ctc	ctg	tgg	acg	ttc	atc	aag	tcc	ttc	cag	gcc	4023
		Gly	Val	Arg	Thr	Leu	Leu	Trp	Thr	Phe	Ile	Lys	Ser	Phe	Gln	Ala	
					1255					1260					1265		
		cta	ccc	tac	gtg	gct	ctg	ctc	atc	gtc	atg	ctc	ttc	ttc	atc	tac	4068
45		Leu	Pro	Tyr	Val	Ala	Leu	Leu	Ile	Val	Met	Leu	Phe	Phe	Ile	Tyr	
					1270					1275					1280		
		gct	gtc	atc	ggc	atg	cag	atg	ttt	ggg	aag	atc	gcc	ttg	gtg	gat	4113
50		Ala	Val	Ile	Gly	Met	Gln	Met	Phe	Gly	Lys	Ile	Ala	Leu	Val	Asp	
					1285					1290					1295		
		ggg	acc	caa	ata	aac	cgg	aac	aac	aac	ttc	cag	acc	ttc	cca	caa	4158
		Gly	Thr	Gln	Ile	Asn	Arg	Asn	Asn	Asn	Phe	Gln	Thr	Phe	Pro	Gln	
					1300					1305					1310		
55		gct	gtg	cta	ctg	ctc	ttc	agg	tgt	gca	aca	ggg	gag	gcc	tgg	cag	4203
		Ala	Val	Leu	Leu	Leu	Phe	Arg	Cys	Ala	Thr	Gly	Glu	Ala	Trp	Gln	
					1315					1320					1325		
60		gag	atc	cta	ctg	gcc	tgc	agc	tat	ggg	aag	ctg	tgt	gac	cca	gag	4248
		Glu	Ile	Leu	Leu	Ala	Cys	Ser	Tyr	Gly	Lys	Leu	Cys	Asp	Pro	Glu	
					1330					1335					1340		
		tcg	gac	tat	gcc	cca	ggg	gag	gag	tac	aca	tgt	ggc	acc	aac	ttt	4293
		Ser	Asp	Tyr	Ala	Pro	Gly	Glu	Glu	Tyr	Thr	Cys	Gly	Thr	Asn	Phe	

			1345					1350					1355		
5			gca tac tac tac	ttc atc agc ttc	tac atg ctc tgt gcc ttc	ctg	4338								
			Ala Tyr Tyr Tyr	Phe Ile Ser Phe	Tyr Met Leu Cys Ala Phe	Leu									
			1360		1365	1370									
10			gtc atc aac ctc	ttt gtg gct gtc	atc atg gac aat ttt	gac tac	4383								
			Val Ile Asn Leu	Phe Val Ala Val	Ile Met Asp Asn Phe	Asp Tyr									
			1375		1380	1385									
			ctc acc cgg gac	tgg tcc atc ctg	ggc cct cat cac ctg	gat gag	4428								
			Leu Thr Arg Asp	Trp Ser Ile Leu	Gly Pro His His Leu	Asp Glu									
			1390		1395	1400									
15			ttc aag gcc atc	tgg gca gag tat	gac cca gag gct aag	ggg agg	4473								
			Phe Lys Ala Ile	Trp Ala Glu Tyr	Asp Pro Glu Ala Lys	Gly Arg									
			1405		1410	1415									
20			atc aaa cac ctg	gac gtg gtg acc	ctg ctg aga agg att	cag ccc	4518								
			Ile Lys His Leu	Asp Val Val Thr	Leu Leu Arg Arg Ile	Gln Pro									
			1420		1425	1430									
25			cct ctg ggc ttt	ggg aag ttc tgc	cca cat cgg gta gct	tgt aag	4563								
			Pro Leu Gly Phe	Gly Lys Phe Cys	Pro His Arg Val Ala	Cys Lys									
			1435		1440	1445									
30			cgg ctg gtg ggc	atg aac atg ccc	ctg aac agc gac ggc	aca gtc	4608								
			Arg Leu Val Gly	Met Asn Met Pro	Leu Asn Ser Asp Gly	Thr Val									
			1450		1455	1460									
			acc ttc aat gcc	aca ctc ttt gcc	ctg gtc cgc acg gca	ctc aag	4653								
			Thr Phe Asn Ala	Thr Leu Phe Ala	Leu Val Arg Thr Ala	Leu Lys									
			1465		1470	1475									
35			atc aag acg gaa	ggt aac ttt gag	cag gcc aac gag gag	ctg agg	4698								
			Ile Lys Thr Glu	Gly Asn Phe Glu	Gln Ala Asn Glu Glu	Leu Arg									
			1480		1485	1490									
40			gcc atc atc aag	aag atc tgg aag	aga acc agc atg aag	ctc ttg	4743								
			Ala Ile Ile Lys	Lys Ile Trp Lys	Arg Thr Ser Met Lys	Leu Leu									
			1495		1500	1505									
45			gac cag gtc atc	cct cca ata gga	gat gat gag gtg aca	gtg ggg	4788								
			Asp Gln Val Ile	Pro Pro Ile Gly	Asp Asp Glu Val Thr	Gly									
			1510		1515	1520									
50			aag ttc tac gcc	aca ttc ctc atc	cag gag cac ttc cgg	aag ttc	4833								
			Lys Phe Tyr Ala	Thr Phe Leu Ile	Gln Glu His Phe Arg	Lys Phe									
			1525		1530	1535									
			atg aaa cgc caa	gag gag tat tat	ggc tat cgg ccc aag	aag gac	4878								
			Met Lys Arg Gln	Glu Glu Tyr Tyr	Gly Tyr Arg Pro Lys	Lys Asp									
			1540		1545	1550									
55			att gta cag atc	cag gca ggg ctg	cgg acc att gag gaa	gag gca	4923								
			Ile Val Gln Ile	Gln Ala Gly Leu	Arg Thr Ile Glu Glu	Glu Ala									
			1555		1560	1565									
60			gcc ccc gag atc	tgt cgc acg gtc	tca gga gac ctg gct	gct gag	4968								
			Ala Pro Glu Ile	Cys Arg Thr Val	Ser Gly Asp Leu Ala	Ala Glu									
			1570		1575	1580									
			gag gag ctg gag	aga gcc atg gtg	gag gct gcg atg gag	gag ggg	5013								
			Glu Glu Leu Glu	Arg Ala Met Val	Glu Ala Ala Met Glu	Glu Gly									



		1585		1590		1595		
5	ata ttc cgg agg act gga ggc ctg ttt ggc cag gtg gac aac ttc	5058						
	Ile Phe Arg Arg Thr Gly Gly Leu Phe Gly Gln Val Asp Asn Phe							
	1600 1605 1610							
10	ctg gaa agg acc aac tcc ctg ccc cct gtc atg gcc aat cag aga	5103						
	Leu Glu Arg Thr Asn Ser Leu Pro Pro Val Met Ala Asn Gln Arg							
	1615 1620 1625							
15	ccc ctc cag ttt gct gag ata gag atg gaa gag atg gag tca cct	5148						
	Pro Leu Gln Phe Ala Glu Ile Glu Met Glu Glu Met Glu Ser Pro							
	1630 1635 1640							
20	gtc ttc ttg gag gac ttc cca caa gat cca cgc acc aac ccc ctg	5193						
	Val Phe Leu Glu Asp Phe Pro Gln Asp Pro Arg Thr Asn Pro Leu							
	1645 1650 1655							
25	gct cgt gcc aat acc aac aat gcc aac gcc aat gtc gcc tat gcg	5238						
	Ala Arg Ala Asn Thr Asn Asn Ala Asn Ala Asn Val Ala Tyr Ala							
	1660 1665 1670							
30	aac agc aac cat agc aac agc cat gtg ttt tcc agt gtc cac tat	5283						
	Asn Ser Asn His Ser Asn Ser His Val Phe Ser Ser Val His Tyr							
	1675 1680 1685							
35	gaa agg gag ttc cca gaa gag aca gag acg cct gct acc aga gga	5328						
	Glu Arg Glu Phe Pro Glu Glu Thr Glu Thr Pro Ala Thr Arg Gly							
	1690 1695 1700							
40	cga gcc ctt ggc caa ccc tgc agg tcc ctg gga ccc cac agc aaa	5373						
	Arg Ala Leu Gly Gln Pro Cys Arg Ser Leu Gly Pro His Ser Lys							
	1705 1710 1715							
45	ccc tgt gtg gag atg ctg aag gga ctg ctg acc cag agg gca atg	5418						
	Pro Cys Val Glu Met Leu Lys Gly Leu Leu Thr Gln Arg Ala Met							
	1720 1725 1730							
50	ccc aga ggc cag gca cct cct gcc ccc tgc cag tgc ccc agg gtg	5463						
	Pro Arg Gly Gln Ala Pro Pro Ala Pro Cys Gln Cys Pro Arg Val							
	1735 1740 1745							
55	gag tcc tcc atg cct gag gac aga aag agc tcc aca cca ggg tct	5508						
	Glu Ser Ser Met Pro Glu Asp Arg Lys Ser Ser Thr Pro Gly Ser							
	1750 1755 1760							
60	ctt cat gag gag aca ccc cac agc agg agc acc agg gag aat act	5553						
	Leu His Glu Glu Thr Pro His Ser Arg Ser Thr Arg Glu Asn Thr							
	1765 1770 1775							
65	tcc agg tgc tca gca cca gct aca gcc ctg ctg atc caa aag gct	5598						
	Ser Arg Cys Ser Ala Pro Ala Thr Ala Leu Leu Ile Gln Lys Ala							
	1780 1785 1790							
70	ctg gtt cga ggg ggc ctg ggc acc ttg gca gct gat gca aac ttc	5643						
	Leu Val Arg Gly Gly Leu Gly Thr Leu Ala Ala Asp Ala Asn Phe							
	1795 1800 1805							
75	atc atg gca aca ggc cag gcc ctc gga gat gcc tgc caa atg gaa	5688						
	Ile Met Ala Thr Gly Gln Ala Leu Gly Asp Ala Cys Gln Met Glu							
	1810 1815 1820							
80	cca gag gaa gtg gag atc atg gca aca gag cta ctg aaa gga cga	5733						
	Pro Glu Glu Val Glu Ile Met Ala Thr Glu Leu Leu Lys Gly Arg							

	1825	1830	1835	
	gag gcc cca gac	ggc atg gcc agc tcc	ctg gga tgc ctg aac ctc	5778
5	Glu Ala Pro Asp	Gly Met Ala Ser	Ser Leu Gly Cys Leu Asn Leu	
	1840	1845	1850	
	ggg tcc tcc ctg	ggc agc ctc gac caa	cac cag ggc tcc cag gag	5823
	Gly Ser Ser Leu	Gly Ser Leu Asp Gln	His Gln Gly Ser Gln Glu	
	1855	1860	1865	
10	acc ctt att cct	cca agg ctg tga	tgccacaca gcatcagcat gggcttagag	5877
	Thr Leu Ile Pro	Pro Arg Leu		
	1870			
15	ctggcatgac caatgggggt	ggggaagttg ctgggggtgga	gaagggctag cccaccgcag	5937
	cagcctccct ccctctcagc	agctagatgc atgcctgagg	caggggtggtc aggaaccacc	5997
	tcaaaaagtg cggaggaagt	agctggacag gccctgcccc	tcaccagcaa gaggcattgat	6057
20	tggatggagc ttctaattgtc	attcaaaaag gcctggtcag	tgctgtccc tagggccact	6117
	cccacctgca ggacattaaa	atctccaggc ctgtgacact	ggc	6160
25	<210> 12			
	<211> 1873			
	<212> PRT			
	<213> Homo sapiens			
30	<400> 12			
	Met Glu Pro Ser Ser Pro Gln Asp Glu Gly Leu Arg Lys Lys Gln Pro			
35	1 5 10 15			
	Lys Lys Pro Val Pro Glu Ile Leu Pro Arg Pro Pro Arg Ala Leu Phe			
	20 25 30			
40	Cys Leu Thr Leu Glu Asn Pro Leu Arg Lys Ala Cys Ile Ser Ile Val			
	35 40 45			
	Glu Trp Lys Pro Phe Glu Thr Ile Ile Leu Leu Thr Ile Phe Ala Asn			
	50 55 60			
45	Cys Val Ala Leu Ala Val Tyr Leu Pro Met Pro Glu Asp Asp Asn Asn			
	65 70 75 80			
	Ser Leu Asn Leu Gly Leu Glu Lys Leu Glu Tyr Phe Phe Leu Ile Val			
50	85 90 95			
	Phe Ser Ile Glu Ala Ala Met Lys Ile Ile Ala Tyr Gly Phe Leu Phe			
	100 105 110			
55	His Gln Asp Ala Tyr Leu Arg Ser Gly Trp Asn Val Leu Asp Phe Thr			
	115 120 125			
	Ile Val Phe Leu Gly Val Phe Thr Val Ile Leu Glu Gln Val Asn Val			
	130 135 140			
60	Ile Gln Ser His Thr Ala Pro Met Ser Ser Lys Gly Ala Gly Leu Asp			
	145 150 155 160			
	Val Lys Ala Leu Arg Ala Phe Arg Val Leu Arg Pro Leu Arg Leu Val			
	165 170 175			

	Ser	Gly	Val	Pro	Ser	Leu	Gln	Val	Val	Leu	Asn	Ser	Ile	Phe	Lys	Ala	
				180					185					190			
5	Met	Leu	Pro	Leu	Phe	His	Ile	Ala	Leu	Leu	Val	Leu	Phe	Met	Val	Ile	
			195					200					205				
	Ile	Tyr	Ala	Ile	Ile	Gly	Leu	Glu	Leu	Phe	Lys	Gly	Lys	Met	His	Lys	
10		210					215					220					
	Thr	Cys	Tyr	Phe	Ile	Gly	Thr	Asp	Ile	Val	Ala	Thr	Val	Glu	Asn	Glu	
	225					230					235					240	
15	Glu	Pro	Ser	Pro	Cys	Ala	Arg	Thr	Gly	Ser	Gly	Arg	Arg	Cys	Thr	Ile	
					245					250					255		
	Asn	Gly	Ser	Glu	Cys	Arg	Gly	Gly	Cys	Pro	Gly	Pro	Asn	His	Gly	Ile	
20				260					265					270			
	Thr	His	Phe	Asp	Asn	Phe	Gly	Phe	Ser	Met	Leu	Thr	Val	Tyr	Gln	Cys	
			275					280					285				
25	Ile	Thr	Met	Glu	Gly	Trp	Thr	Asp	Val	Leu	Tyr	Trp	Val	Asn	Asp	Ala	
	290						295					300					
	Ile	Gly	Asn	Glu	Trp	Pro	Trp	Ile	Tyr	Phe	Val	Thr	Leu	Ile	Leu	Leu	
	305					310					315					320	
30	Gly	Ser	Phe	Phe	Ile	Leu	Asn	Leu	Val	Leu	Gly	Val	Leu	Ser	Gly	Glu	
					325					330					335		
	Phe	Thr	Lys	Glu	Arg	Glu	Lys	Ala	Lys	Ser	Arg	Gly	Thr	Phe	Gln	Lys	
35				340					345					350			
	Leu	Arg	Glu	Lys	Gln	Gln	Leu	Asp	Glu	Asp	Leu	Arg	Gly	Tyr	Met	Ser	
			355					360					365				
40	Trp	Ile	Thr	Gln	Gly	Glu	Val	Met	Asp	Val	Glu	Asp	Phe	Arg	Glu	Gly	
	370						375					380					
	Lys	Leu	Ser	Leu	Asp	Glu	Gly	Gly	Ser	Asp	Thr	Glu	Ser	Leu	Tyr	Glu	
	385				390					395						400	
45	Ile	Ala	Gly	Leu	Asn	Lys	Ile	Ile	Gln	Phe	Ile	Arg	His	Trp	Arg	Gln	
					405					410					415		
	Trp	Asn	Arg	Ile	Phe	Arg	Trp	Lys	Cys	His	Asp	Ile	Val	Lys	Ser	Lys	
50				420					425					430			
	Val	Phe	Tyr	Trp	Leu	Val	Ile	Leu	Ile	Val	Ala	Leu	Asn	Thr	Leu	Ser	
			435					440					445				
55	Ile	Ala	Ser	Glu	His	His	Asn	Gln	Pro	His	Trp	Leu	Thr	Arg	Leu	Gln	
	450						455					460					
	Asp	Ile	Ala	Asn	Arg	Val	Leu	Leu	Ser	Leu	Phe	Thr	Thr	Glu	Met	Leu	
	465				470						475					480	
60	Met	Lys	Met	Tyr	Gly	Leu	Gly	Leu	Arg	Gln	Tyr	Phe	Met	Ser	Ile	Phe	
					485					490					495		
	Asn	Arg	Phe	Asp	Cys	Phe	Val	Val	Cys	Ser	Gly	Ile	Leu	Glu	Ile	Leu	
				500					505					510			

	Leu	Val	Glu	Ser	Gly	Ala	Met	Thr	Pro	Leu	Gly	Ile	Ser	Val	Leu	Arg	
			515					520					525				
5	Cys	Ile	Arg	Leu	Leu	Arg	Ile	Phe	Lys	Ile	Thr	Lys	Tyr	Trp	Thr	Ser	
			530				535						540				
	Leu	Ser	Asn	Leu	Val	Ala	Ser	Leu	Leu	Asn	Ser	Ile	Arg	Ser	Ile	Ala	
	545					550					555					560	
10	Ser	Leu	Leu	Leu	Leu	Leu	Phe	Leu	Phe	Ile	Val	Ile	Phe	Arg	Leu	Leu	
					565					570					575		
	Gly	Met	Gln	Leu	Phe	Gly	Gly	Arg	Tyr	Asp	Phe	Glu	Asp	Thr	Glu	Val	
15				580					585					590			
	Arg	Arg	Ser	Asn	Phe	Asp	Asn	Phe	Pro	Gln	Ala	Leu	Ile	Ser	Val	Phe	
			595					600					605				
20	Gln	Val	Leu	Thr	Gly	Glu	Asp	Trp	Thr	Ser	Met	Met	Tyr	Asn	Gly	Ile	
		610					615					620					
	Met	Ala	Ser	Ser	Gly	Pro	Ser	Tyr	Pro	Gly	Met	Leu	Val	Cys	Ile	Tyr	
25		625				630					635					640	
	Phe	Ile	Ile	Leu	Phe	Val	Cys	Gly	Asn	Tyr	Ile	Leu	Leu	Asn	Val	Phe	
					645					650					655		
30	Leu	Ala	Ile	Ala	Val	Asp	Asn	Leu	Ala	Glu	Ala	Glu	Ser	Leu	Thr	Ser	
				660					665					670			
	Ala	Gln	Lys	Ala	Lys	Ala	Glu	Glu	Lys	Lys	Arg	Arg	Lys	Met	Ser	Lys	
			675					680					685				
35	Gly	Leu	Pro	Asp	Lys	Ser	Glu	Glu	Glu	Lys	Ser	Thr	Met	Ala	Lys	Lys	
		690					695					700					
	Leu	Glu	Gln	Lys	Pro	Lys	Gly	Glu	Gly	Ile	Pro	Thr	Thr	Ala	Lys	Leu	
40		705				710					715					720	
	Lys	Ile	Asp	Glu	Phe	Glu	Ser	Asn	Val	Asn	Glu	Val	Lys	Asp	Pro	Tyr	
					725					730				735			
45	Pro	Ser	Ala	Asp	Phe	Pro	Gly	Asp	Asp	Glu	Glu	Asp	Glu	Pro	Glu	Ile	
				740					745					750			
	Pro	Leu	Ser	Pro	Arg	Pro	Arg	Pro	Leu	Ala	Glu	Leu	Gln	Leu	Lys	Glu	
			755					760					765				
50	Lys	Ala	Val	Pro	Ile	Pro	Glu	Ala	Ser	Ser	Phe	Phe	Ile	Phe	Ser	Pro	
		770					775					780					
	Thr	Asn	Lys	Ile	Arg	Val	Leu	Cys	His	Arg	Ile	Val	Asn	Ala	Thr	Trp	
55		785				790					795					800	
	Phe	Thr	Asn	Phe	Ile	Leu	Leu	Phe	Ile	Leu	Leu	Ser	Ser	Ala	Ala	Leu	
					805					810					815		
60	Ala	Ala	Glu	Asp	Pro	Ile	Arg	Ala	Asp	Ser	Met	Arg	Asn	Gln	Ile	Leu	
				820					825					830			
	Lys	His	Phe	Asp	Ile	Gly	Phe	Thr	Ser	Val	Phe	Thr	Val	Glu	Ile	Val	
			835					840					845				

	Leu	Lys	Met	Thr	Thr	Tyr	Gly	Ala	Phe	Leu	His	Lys	Gly	Ser	Phe	Cys	
	850						855					860					
5	Arg	Asn	Tyr	Phe	Asn	Met	Leu	Asp	Leu	Leu	Val	Val	Ala	Val	Ser	Leu	
	865				870						875					880	
	Ile	Ser	Met	Gly	Leu	Glu	Ser	Ser	Ala	Ile	Ser	Val	Val	Lys	Ile	Leu	
					885					890					895		
10	Arg	Val	Leu	Arg	Val	Leu	Arg	Pro	Leu	Arg	Ala	Ile	Asn	Arg	Ala	Lys	
				900					905					910			
	Gly	Leu	Lys	His	Val	Ala	Arg	Cys	Met	Phe	Val	Ala	Ile	Ser	Thr	Ile	
15			915					920					925				
	Gly	Asn	Ile	Val	Leu	Val	Thr	Thr	Leu	Leu	Gln	Phe	Met	Phe	Ala	Cys	
		930					935					940					
20	Ile	Gly	Val	Gln	Leu	Phe	Lys	Gly	Lys	Phe	Phe	Arg	Cys	Thr	Asp	Leu	
	945				950						955					960	
	Ser	Lys	Met	Thr	Glu	Glu	Cys	Arg	Gly	Tyr	Tyr	Tyr	Val	Tyr	Lys		
25					965				970					975			
	Asp	Gly	Asp	Pro	Met	Gln	Ile	Glu	Leu	Arg	His	Arg	Glu	Trp	Val	His	
				980				985					990				
30	Ser	Asp	Phe	His	Phe	Asp	Asn	Val	Leu	Ser	Ala	Met	Met	Ser	Leu	Phe	
			995					1000					1005				
	Thr	Val	Ser	Thr	Phe	Glu	Gly	Trp	Pro	Gln	Leu	Leu	Tyr	Lys	Ala		
		1010					1015					1020					
35	Ile	Asp	Ser	Asn	Ala	Glu	Asp	Val	Gly	Pro	Ile	Tyr	Asn	Asn	Arg		
		1025					1030					1035					
	Val	Glu	Met	Ala	Ile	Phe	Phe	Ile	Ile	Tyr	Ile	Ile	Leu	Ile	Ala		
40		1040					1045					1050					
	Phe	Phe	Met	Met	Asn	Ile	Phe	Val	Gly	Phe	Val	Ile	Val	Thr	Phe		
		1055					1060					1065					
45	Gln	Glu	Gln	Gly	Glu	Thr	Glu	Tyr	Lys	Asn	Cys	Glu	Leu	Asp	Lys		
		1070					1075					1080					
	Asn	Gln	Arg	Gln	Cys	Val	Gln	Tyr	Ala	Leu	Lys	Ala	Arg	Pro	Leu		
		1085					1090					1095					
50	Arg	Cys	Tyr	Ile	Pro	Lys	Asn	Pro	Tyr	Gln	Tyr	Gln	Val	Trp	Tyr		
		1100					1105					1110					
	Ile	Val	Thr	Ser	Ser	Tyr	Phe	Glu	Tyr	Leu	Met	Phe	Ala	Leu	Ile		
55		1115					1120					1125					
	Met	Leu	Asn	Thr	Ile	Cys	Leu	Gly	Met	Gln	His	Tyr	Asn	Gln	Ser		
		1130					1135					1140					
60	Glu	Gln	Met	Asn	His	Ile	Ser	Asp	Ile	Leu	Asn	Val	Ala	Phe	Thr		
		1145					1150					1155					
	Ile	Ile	Phe	Thr	Leu	Glu	Met	Ile	Leu	Lys	Leu	Met	Ala	Phe	Lys		
		1160					1165					1170					

	Ala	Arg	Gly	Tyr	Phe	Gly	Asn	Pro	Trp	Asn	Val	Phe	Asp	Phe	Leu
	1175						1180					1185			
5	Ile	Val	Ile	Gly	Ser	Ile	Ile	Asp	Val	Ile	Leu	Ser	Glu	Ile	Asp
	1190						1195					1200			
	Thr	Phe	Leu	Ala	Ser	Ser	Gly	Gly	Leu	Tyr	Cys	Leu	Gly	Gly	Gly
	1205						1210					1215			
10	Cys	Gly	Asn	Val	Asp	Pro	Asp	Glu	Ser	Ala	Arg	Ile	Ser	Ser	Ala
	1220						1225					1230			
	Phe	Phe	Arg	Leu	Phe	Arg	Val	Met	Arg	Leu	Ile	Lys	Leu	Leu	Ser
15	1235						1240					1245			
	Arg	Ala	Glu	Gly	Val	Arg	Thr	Leu	Leu	Trp	Thr	Phe	Ile	Lys	Ser
	1250						1255					1260			
20	Phe	Gln	Ala	Leu	Pro	Tyr	Val	Ala	Leu	Leu	Ile	Val	Met	Leu	Phe
	1265						1270					1275			
	Phe	Ile	Tyr	Ala	Val	Ile	Gly	Met	Gln	Met	Phe	Gly	Lys	Ile	Ala
25	1280						1285					1290			
	Leu	Val	Asp	Gly	Thr	Gln	Ile	Asn	Arg	Asn	Asn	Asn	Phe	Gln	Thr
	1295						1300					1305			
30	Phe	Pro	Gln	Ala	Val	Leu	Leu	Leu	Phe	Arg	Cys	Ala	Thr	Gly	Glu
	1310						1315					1320			
	Ala	Trp	Gln	Glu	Ile	Leu	Leu	Ala	Cys	Ser	Tyr	Gly	Lys	Leu	Cys
	1325						1330					1335			
35	Asp	Pro	Glu	Ser	Asp	Tyr	Ala	Pro	Gly	Glu	Glu	Tyr	Thr	Cys	Gly
	1340						1345					1350			
	Thr	Asn	Phe	Ala	Tyr	Tyr	Tyr	Phe	Ile	Ser	Phe	Tyr	Met	Leu	Cys
40	1355						1360					1365			
	Ala	Phe	Leu	Val	Ile	Asn	Leu	Phe	Val	Ala	Val	Ile	Met	Asp	Asn
	1370						1375					1380			
45	Phe	Asp	Tyr	Leu	Thr	Arg	Asp	Trp	Ser	Ile	Leu	Gly	Pro	His	His
	1385						1390					1395			
	Leu	Asp	Glu	Phe	Lys	Ala	Ile	Trp	Ala	Glu	Tyr	Asp	Pro	Glu	Ala
	1400						1405					1410			
50	Lys	Gly	Arg	Ile	Lys	His	Leu	Asp	Val	Val	Thr	Leu	Leu	Arg	Arg
	1415						1420					1425			
	Ile	Gln	Pro	Pro	Leu	Gly	Phe	Gly	Lys	Phe	Cys	Pro	His	Arg	Val
55	1430						1435					1440			
	Ala	Cys	Lys	Arg	Leu	Val	Gly	Met	Asn	Met	Pro	Leu	Asn	Ser	Asp
	1445						1450					1455			
60	Gly	Thr	Val	Thr	Phe	Asn	Ala	Thr	Leu	Phe	Ala	Leu	Val	Arg	Thr
	1460						1465					1470			
	Ala	Leu	Lys	Ile	Lys	Thr	Glu	Gly	Asn	Phe	Glu	Gln	Ala	Asn	Glu
	1475						1480					1485			

	Glu	Leu	Arg	Ala	Ile	Ile	Lys	Lys	Ile	Trp	Lys	Arg	Thr	Ser	Met
	1490						1495					1500			
5	Lys	Leu	Leu	Asp	Gln	Val	Ile	Pro	Pro	Ile	Gly	Asp	Asp	Glu	Val
	1505						1510					1515			
	Thr	Val	Gly	Lys	Phe	Tyr	Ala	Thr	Phe	Leu	Ile	Gln	Glu	His	Phe
	1520						1525					1530			
10	Arg	Lys	Phe	Met	Lys	Arg	Gln	Glu	Glu	Tyr	Tyr	Gly	Tyr	Arg	Pro
	1535						1540					1545			
	Lys	Lys	Asp	Ile	Val	Gln	Ile	Gln	Ala	Gly	Leu	Arg	Thr	Ile	Glu
15	1550						1555					1560			
	Glu	Glu	Ala	Ala	Pro	Glu	Ile	Cys	Arg	Thr	Val	Ser	Gly	Asp	Leu
	1565						1570					1575			
20	Ala	Ala	Glu	Glu	Glu	Leu	Glu	Arg	Ala	Met	Val	Glu	Ala	Ala	Met
	1580						1585					1590			
	Glu	Glu	Gly	Ile	Phe	Arg	Arg	Thr	Gly	Gly	Leu	Phe	Gly	Gln	Val
25	1595						1600					1605			
	Asp	Asn	Phe	Leu	Glu	Arg	Thr	Asn	Ser	Leu	Pro	Pro	Val	Met	Ala
	1610						1615					1620			
30	Asn	Gln	Arg	Pro	Leu	Gln	Phe	Ala	Glu	Ile	Glu	Met	Glu	Glu	Met
	1625						1630					1635			
	Glu	Ser	Pro	Val	Phe	Leu	Glu	Asp	Phe	Pro	Gln	Asp	Pro	Arg	Thr
	1640						1645					1650			
35	Asn	Pro	Leu	Ala	Arg	Ala	Asn	Thr	Asn	Asn	Ala	Asn	Ala	Asn	Val
	1655						1660					1665			
	Ala	Tyr	Ala	Asn	Ser	Asn	His	Ser	Asn	Ser	His	Val	Phe	Ser	Ser
40	1670						1675					1680			
	Val	His	Tyr	Glu	Arg	Glu	Phe	Pro	Glu	Glu	Thr	Glu	Thr	Pro	Ala
	1685						1690					1695			
45	Thr	Arg	Gly	Arg	Ala	Leu	Gly	Gln	Pro	Cys	Arg	Ser	Leu	Gly	Pro
	1700						1705					1710			
	His	Ser	Lys	Pro	Cys	Val	Glu	Met	Leu	Lys	Gly	Leu	Leu	Thr	Gln
	1715						1720					1725			
50	Arg	Ala	Met	Pro	Arg	Gly	Gln	Ala	Pro	Pro	Ala	Pro	Cys	Gln	Cys
	1730						1735					1740			
	Pro	Arg	Val	Glu	Ser	Ser	Met	Pro	Glu	Asp	Arg	Lys	Ser	Ser	Thr
55	1745						1750					1755			
	Pro	Gly	Ser	Leu	His	Glu	Glu	Thr	Pro	His	Ser	Arg	Ser	Thr	Arg
	1760						1765					1770			
60	Glu	Asn	Thr	Ser	Arg	Cys	Ser	Ala	Pro	Ala	Thr	Ala	Leu	Leu	Ile
	1775						1780					1785			
	Gln	Lys	Ala	Leu	Val	Arg	Gly	Gly	Leu	Gly	Thr	Leu	Ala	Ala	Asp
	1790						1795					1800			

	Ala Asn Phe Ile Met Ala Thr Gly Gln Ala Leu Gly Asp Ala Cys	
	1805 1810 1815	
5	Gln Met Glu Pro Glu Glu Val Glu Ile Met Ala Thr Glu Leu Leu	
	1820 1825 1830	
	Lys Gly Arg Glu Ala Pro Asp Gly Met Ala Ser Ser Leu Gly Cys	
	1835 1840 1845	
10	Leu Asn Leu Gly Ser Ser Leu Gly Ser Leu Asp Gln His Gln Gly	
	1850 1855 1860	
	Ser Gln Glu Thr Leu Ile Pro Pro Arg Leu	
15	1865 1870	
	<210> 13	
	<211> 6160	
20	<212> DNA	
	<213> Homo sapiens	
	<220>	
25	<221> gene	
	<222> (1) .. (6160)	
	<220>	
	<221> CDS	
30	<222> (226) .. (5847)	
	<400> 13	
	tcaggccggc agcggggagc cgagtggagg ctaattttac ttgctgggag cgaggagagt	60
35	aatcctcctg cccccactc ctgccccgcc ccctggctgg ctcagcaggg cagctcagcc	120
	gacagcctca gccagcctag tcccgaaggc gggggcattg gggacacagg gaagggaaag	180
	cactgggggtg ggggagcagg agaaagccag attcccaggg aagcc atg gag cca tcc	237
40	Met Glu Pro Ser	
	1	
	tca ccc cag gat gaa ggc ctg agg aag aaa cag ccc aag aag cca gtt	285
45	Ser Pro Gln Asp Glu Gly Leu Arg Lys Lys Gln Pro Lys Lys Pro Val	
	5 10 15 20	
	cct gag att ctg cca agg cca ccc cgg gct ttg ttc tgc ctg acc ctg	333
	Pro Glu Ile Leu Pro Arg Pro Pro Arg Ala Leu Phe Cys Leu Thr Leu	
	25 30 35	
50	gag aac ccc ctg agg aag gcc tgc atc agc att gta gaa tgg aag ccc	381
	Glu Asn Pro Leu Arg Lys Ala Cys Ile Ser Ile Val Glu Trp Lys Pro	
	40 45 50	
55	ttc gag acg atc atc ttg ctc acc atc ttt gcc aat tgt gtg gcc ctg	429
	Phe Glu Thr Ile Ile Leu Leu Thr Ile Phe Ala Asn Cys Val Ala Leu	
	55 60 65	
	gcc gtg tac ctg ccc atg ccg gaa gat gac aac aac tct ctg aac ctc	477
60	Ala Val Tyr Leu Pro Met Pro Glu Asp Asp Asn Asn Ser Leu Asn Leu	
	70 75 80	
	ggc ctg gag aag ctg gag tat ttc ttc ctc att gtc ttc tcg att gaa	525
	Gly Leu Glu Lys Leu Glu Tyr Phe Phe Leu Ile Val Phe Ser Ile Glu	



	85					90						95				100	
	gcc	gcc	atg	aag	atc	att	gcc	tac	ggc	ttc	tta	ttc	cac	cag	gac	gct	573
5	Ala	Ala	Met	Lys	Ile	Ile	Ala	Tyr	Gly	Phe	Leu	Phe	His	Gln	Asp	Ala	
					105					110					115		
	tac	ctg	cgc	agt	ggc	tgg	aat	gtg	ctg	gac	ttc	acc	att	gtc	ttc	ctg	621
	Tyr	Leu	Arg	Ser	Gly	Trp	Asn	Val	Leu	Asp	Phe	Thr	Ile	Val	Phe	Leu	
10				120					125					130			
	ggg	gtc	ttc	acc	gtg	att	ctg	gaa	cag	gtt	aac	gtc	atc	caa	agc	cac	669
	Gly	Val	Phe	Thr	Val	Ile	Leu	Glu	Gln	Val	Asn	Val	Ile	Gln	Ser	His	
			135					140					145				
15	aca	gcc	cca	atg	agc	agc	aaa	gga	gcc	ggc	ttg	gat	gtc	aag	gcc	ctc	717
	Thr	Ala	Pro	Met	Ser	Ser	Lys	Gly	Ala	Gly	Leu	Asp	Val	Lys	Ala	Leu	
		150					155					160					
20	aga	gcc	ttc	cga	gtg	ctc	aga	ccc	ctc	cgg	ctg	gtg	tcg	ggg	gtg	cct	765
	Arg	Ala	Phe	Arg	Val	Leu	Arg	Pro	Leu	Arg	Leu	Val	Ser	Gly	Val	Pro	
	165					170					175					180	
	agc	ctg	cag	gtg	gtc	ctg	aac	tcc	atc	ttc	aag	gcc	atg	ctc	ccc	ctc	813
25	Ser	Leu	Gln	Val	Val	Leu	Asn	Ser	Ile	Phe	Lys	Ala	Met	Leu	Pro	Leu	
					185					190					195		
	ttt	cac	atc	gcc	ctg	ctg	gtc	ctc	ttt	atg	gtc	atc	atc	tat	gcc	atc	861
	Phe	His	Ile	Ala	Leu	Leu	Val	Leu	Phe	Met	Val	Ile	Ile	Tyr	Ala	Ile	
30				200					205					210			
	atc	ggg	ctg	gag	ctc	ttc	aag	ggc	aag	atg	cac	aag	acc	tgc	tac	ttc	909
	Ile	Gly	Leu	Glu	Leu	Phe	Lys	Gly	Lys	Met	His	Lys	Thr	Cys	Tyr	Phe	
			215					220					225				
35	att	ggt	aca	gat	atc	gtg	gcc	acg	gtg	gag	aat	gaa	gag	cca	tcg	ccc	957
	Ile	Gly	Thr	Asp	Ile	Val	Ala	Thr	Val	Glu	Asn	Glu	Glu	Pro	Ser	Pro	
		230					235					240					
40	tgc	gcc	agg	acg	ggc	tca	ggg	cgc	cgg	tgc	acc	atc	aat	ggc	agt	gag	1005
	Cys	Ala	Arg	Thr	Gly		Gly	Arg	Arg	Cys	Thr	Ile	Asn	Gly	Ser	Glu	
	245					250					255					260	
	tgc	cgg	ggc	ggc	tgc	cca	ggg	ccc	aac	cat	ggc	atc	acc	cac	ttc	gac	1053
45	Cys	Arg	Gly	Gly	Cys	Pro	Gly	Pro	Asn	His	Gly	Ile	Thr	His	Phe	Asp	
					265					270					275		
	aac	ttc	ggc	ttc	tcc	atg	ctc	acc	gtg	tac	cag	tgc	att	acc	atg	gag	1101
	Asn	Phe	Gly	Phe	Ser	Met	Leu	Thr	Val	Tyr	Gln	Cys	Ile	Thr	Met	Glu	
50				280					285					290			
	gga	tgg	act	gac	gtc	ctt	tac	tgg	gtc	aat	gat	gcc	atc	ggg	aat	gag	1149
	Gly	Trp	Thr	Asp	Val	Leu	Tyr	Trp	Val	Asn	Asp	Ala	Ile	Gly	Asn	Glu	
			295					300					305				
55	tgg	ccc	tgg	atc	tat	ttt	gtc	acc	ctc	att	ttg	ctg	gga	tcc	ttc	ttc	1197
	Trp	Pro	Trp	Ile	Tyr	Phe	Val	Thr	Leu	Ile	Leu	Leu	Gly	Ser	Phe	Phe	
		310					315					320					
60	atc	ctc	aac	ctg	gtg	ctg	ggg	gtc	ctg	agt	ggg	gaa	ttc	acc	aag	gag	1245
	Ile	Leu	Asn	Leu	Val	Leu	Gly	Val	Leu	Ser	Gly	Glu	Phe	Thr	Lys	Glu	
	325					330					335					340	
	cgg	gag	aag	gcc	aag	tcc	agg	gga	acc	ttc	cag	aag	ctc	cgg	gag	aag	1293
	Arg	Glu	Lys	Ala	Lys	Ser	Arg	Gly	Thr	Phe	Gln	Lys	Leu	Arg	Glu	Lys	

					345					350					355				
		cag	caa	cta	gat	gag	gac	ctt	cgg	ggc	tac	atg	agc	tgg	atc	acg	cag		1341
5		Gln	Gln	Leu	Asp	Glu	Asp	Leu	Arg	Gly	Tyr	Met	Ser	Trp	Ile	Thr	Gln		
					360					365					370				
		ggc	gag	gtc	atg	gat	gtt	gag	gac	ttc	aga	gaa	gga	aaa	ctg	tct	ttg		1389
		Gly	Glu	Val	Met	Asp	Val	Glu	Asp	Phe	Arg	Glu	Gly	Lys	Leu	Ser	Leu		
				375					380					385					
10		gat	gaa	ggg	ggc	tct	gac	aca	gag	agc	ctg	tat	gaa	att	gca	ggc	ttg		1437
		Asp	Glu	Gly	Gly	Ser	Asp	Thr	Glu	Ser	Leu	Tyr	Glu	Ile	Ala	Gly	Leu		
			390					395					400						
15		aac	aaa	atc	atc	cag	ttc	atc	cga	cat	tgg	agg	cag	tgg	aac	cgc	atc		1485
		Asn	Lys	Ile	Ile	Gln	Phe	Ile	Arg	His	Trp	Arg	Gln	Trp	Asn	Arg	Ile		
		405					410					415					420		
20		ttt	cgc	tgg	aag	tgc	cat	gac	atc	gtg	aag	tcc	aag	gtc	ttc	tat	tgg		1533
		Phe	Arg	Trp	Lys	Cys	His	Asp	Ile	Val	Lys	Ser	Lys	Val	Phe	Tyr	Trp		
						425					430					435			
25		ctg	gtg	att	ctc	atc	gtt	gcc	ctc	aac	acc	ctg	tct	atc	gcc	tca	gag		1581
		Leu	Val	Ile	Leu	Ile	Val	Ala	Leu	Asn	Thr	Leu	Ser	Ile	Ala	Ser	Glu		
					440					445					450				
30		cac	cac	aac	cag	ccg	cac	tgg	ctg	acc	cgt	ttg	caa	gac	att	gcc	aac		1629
		His	His	Asn	Gln	Pro	His	Trp	Leu	Thr	Arg	Leu	Gln	Asp	Ile	Ala	Asn		
				455					460					465					
		cgg	gtg	ctg	ctg	tcc	ctc	ttc	acc	act	gag	atg	ctg	atg	aag	atg	tac		1677
		Arg	Val	Leu	Leu	Ser	Leu	Phe	Thr	Thr	Glu	Met	Leu	Met	Lys	Met	Tyr		
			470					475					480						
35		ggg	ctg	ggc	ctg	cgc	cag	tac	ttc	atg	tct	atc	ttc	aac	cgc	ttc	gac		1725
		Gly	Leu	Gly	Leu	Arg	Gln	Tyr	Phe	Met	Ser	Ile	Phe	Asn	Arg	Phe	Asp		
		485					490					495					500		
40		tgc	ttc	gtg	gtg	tgc	agc	ggg	atc	ctg	gag	atc	ctg	ctg	gtg	gag	tcg		1773
		Cys	Phe	Val	Val	Cys	Ser	Gly	Ile	Leu	Glu	Ile	Leu	Leu	Val	Glu	Ser		
						505					510					515			
45		ggc	gcc	atg	aca	ccc	ctg	ggc	atc	tcc	gtg	ctc	cgc	tgc	atc	cgc	ctc		1821
		Gly	Ala	Met	Thr	Pro	Leu	Gly	Ile	Ser	Val	Leu	Arg	Cys	Ile	Arg	Leu		
					520					525					530				
50		ctg	agg	atc	ttc	aag	atc	acc	aaa	tat	tgg	acg	tcg	ctg	agc	aac	ctg		1869
		Leu	Arg	Ile	Phe	Lys	Ile	Thr	Lys	Tyr	Trp	Thr	Ser	Leu	Ser	Asn	Leu		
				535					540					545					
		gtg	gca	tcc	ctg	ctc	aac	tcc	atc	cgc	tcc	atc	gcc	tcc	ctg	ctg	ctg		1917
		Val	Ala	Ser	Leu	Leu	Asn	Ser	Ile	Arg	Ser	Ile	Ala	Ser	Leu	Leu	Leu		
			550					555					560						
55		ctg	ctc	ttc	ctc	ttc	atc	gtc	atc	ttc	cgc	ctc	ctg	ggc	atg	cag	ctc		1965
		Leu	Leu	Phe	Leu	Phe	Ile	Val	Ile	Phe	Arg	Leu	Leu	Gly	Met	Gln	Leu		
		565					570					575					580		
60		ttt	ggg	ggg	agg	tat	gac	ttt	gaa	gac	aca	gaa	gta	cgg	cgc	agc	aac		2013
		Phe	Gly	Gly	Arg	Tyr	Asp	Phe	Glu	Asp	Thr	Glu	Val	Arg	Arg	Ser	Asn		
						585					590					595			
		ttt	gac	aac	ttt	ccc	caa	gcc	ctc	atc	agc	gtc	ttc	cag	gta	ctg	aca		2061
		Phe	Asp	Asn	Phe	Pro	Gln	Ala	Leu	Ile	Ser	Val	Phe	Gln	Val	Leu	Thr		

	600	605	610	
5	ggg gaa gac tgg acc tca atg atg tac aat ggg atc atg gcc tcg agc Gly Glu Asp Trp Thr Ser Met Met Tyr Asn Gly Ile Met Ala Ser Ser 615 620 625	2109		
10	ggg ccg tcc tac cct ggc atg ctt gtg tgc att tac ttc atc atc ctt Gly Pro Ser Tyr Pro Gly Met Leu Val Cys Ile Tyr Phe Ile Ile Leu 630 635 640	2157		
15	ttc gtc tgt ggc aac tac atc ctg ctc aat gtc ttc ctg gcc att gcc Phe Val Cys Gly Asn Tyr Ile Leu Leu Asn Val Phe Leu Ala Ile Ala 645 650 655 660	2205		
20	gtg gac aac ctg gcc gag gcg gag agc ctg act tct gcc cag aag gcc Val Asp Asn Leu Ala Glu Ala Glu Ser Leu Thr Ser Ala Gln Lys Ala 665 670 675	2253		
25	aag gct gag gag aaa aaa cgc agg aag atg tcc aag ggt ctc cca gac Lys Ala Glu Lys Lys Arg Arg Lys Met Ser Lys Gly Leu Pro Asp 680 685 690	2301		
30	aag tca gaa gag gag aag tca acg atg gcc aag aag ctg gag cag aaa Lys Ser Glu Glu Glu Lys Ser Thr Met Ala Lys Lys Leu Glu Gln Lys 695 700 705	2349		
35	ccc aag ggt gag ggc atc ccc acc act gcc aag ctg aaa atc gat gag Pro Lys Gly Glu Gly Ile Pro Thr Thr Ala Lys Leu Lys Ile Asp Glu 710 715 720	2397		
40	ttt gaa tct aat gtc aat gag gtg aag gat ccc tac ccc tca gcc gac Phe Glu Ser Asn Val Asn Glu Val Lys Asp Pro Tyr Pro Ser Ala Asp 725 730 735 740	2445		
45	ttc cca ggg gat gac gag gaa gat gag cct gag atc ccg ctg agc ccc Phe Pro Gly Asp Asp Glu Glu Asp Glu Pro Glu Ile Pro Leu Ser Pro 745 750 755	2493		
50	cga cca cgt ccc ctg gct gag ctg cag ctg aaa gag aag gcc gtg ccc Arg Pro Arg Pro Leu Ala Glu Leu Gln Leu Lys Glu Lys Ala Val Pro 760 765 770	2541		
55	att cca gaa gcc agc tcc ttc ttc atc ttc agc ccc acc aat aag atc Ile Pro Glu Ala Ser Ser Phe Phe Ile Phe Ser Pro Thr Asn Lys Ile 775 780 785	2589		
60	cgt gtc ctg tgt cac cgc atc gtc aat gcc acc tgg ttc acc aac ttc Arg Val Leu Cys His Arg Ile Val Asn Ala Thr Trp Phe Thr Asn Phe 790 795 800	2637		
65	atc ctg ctc ttc atc ctg ctc agc agc gct gca ctg gct gcg gaa gac Ile Leu Leu Phe Ile Leu Leu Ser Ser Ala Ala Leu Ala Ala Glu Asp 805 810 815 820	2685		
70	ccc atc cgg gct gat tcc atg aga aat cag atc ctt aaa cac ttt gac Pro Ile Arg Ala Asp Ser Met Arg Asn Gln Ile Leu Lys His Phe Asp 825 830 835	2733		
75	atc ggg ttc acc tct gtc ttc act gtg gag att gtc ctc aag atg acg Ile Gly Phe Thr Ser Val Phe Thr Val Glu Ile Val Leu Lys Met Thr 840 845 850	2781		
80	acc tac gga gcc ttc ctg cac aag ggt tcc ttc tgc cgc aat tac ttc Thr Tyr Gly Ala Phe Leu His Lys Gly Ser Phe Cys Arg Asn Tyr Phe	2829		

	855	860	865	
5	aac atg ctg gac ctg ctg gtg gtg gcc gtg tcc ctc atc tcc atg gga Asn Met Leu Asp Leu Leu Val Val Ala Val Ser Leu Ile Ser Met Gly 870 875 880	2877		
10	ctt gag tcc agt gcc atc tcc gtg gtg aag atc ctg agg gtg ctg agg Leu Glu Ser Ser Ala Ile Ser Val Val Lys Ile Leu Arg Val Leu Arg 885 890 895 900	2925		
15	gtg ctc cga cca ctc aga gcc atc aac aga gcc aag ggg ttg aag cac Val Leu Arg Pro Leu Arg Ala Ile Asn Arg Ala Lys Gly Leu Lys His 905 910 915	2973		
20	gtg gct agg tgc atg ttc gtg gcc atc agc acc atc ggg aac atc gtg Val Ala Arg Cys Met Phe Val Ala Ile Ser Thr Ile Gly Asn Ile Val 920 925 930	3021		
25	ctg gtc act acc ctc cta cag ttc atg ttt gcc tgc atc ggc gtc cag Leu Val Thr Leu Leu Gln Phe Met Phe Ala Cys Ile Gly Val Gln 935 940 945	3069		
30	ctc ttc aag ggg aag ttc ttc agg tgc acc gac ttg tcc aag atg aca Leu Phe Lys Gly Lys Phe Phe Arg Cys Thr Asp Leu Ser Lys Met Thr 950 955 960	3117		
35	gag gag gag tgc agg ggc tac tac tac gtg tac aag gac ggg gac ccc Glu Glu Glu Cys Arg Gly Tyr Tyr Tyr Val Tyr Lys Asp Gly Asp Pro 965 970 975 980	3165		
40	atg cag ata gag ctg cgt cac cgc gag tgg gta cac agc gac ttc cac Met Gln Ile Glu Leu Arg His Arg Glu Trp Val His Ser Asp Phe His 985 990 995	3213		
45	ttc gac aat gtg ctc tca gcc atg atg tcc ctc ttc acg gtc tcc Phe Asp Asn Val Leu Ser Ala Met Met Ser Leu Phe Thr Val Ser 1000 1005 1010	3258		
50	acc ttc gag gga tgg cct cag ctg ctg tac aag gcc ata gac tcc Thr Phe Glu Gly Trp Pro Gln Leu Tyr Lys Ala Ile Asp Ser 1015 1020 1025	3303		
55	aat gcg gag gac gtg ggt ccc atc tac aac aac cgt gtg gag atg Asn Ala Glu Asp Val Gly Pro Ile Tyr Asn Asn Arg Val Glu Met 1030 1035 1040	3348		
60	gcc atc ttc ttc atc atc tac atc atc ctc att gcc ttc ttc atg Ala Ile Phe Phe Ile Ile Tyr Ile Ile Leu Ile Ala Phe Phe Met 1045 1050 1055	3393		
65	atg aac atc ttt gtg ggc ttc gtc att gtc acc ttc cag gag cag Met Asn Ile Phe Val Gly Phe Val Ile Val Thr Phe Gln Glu Gln 1060 1065 1070	3438		
70	gga gag act gag tac aag aac tgt gag ctg gac aag aac cag cgc Gly Glu Thr Glu Tyr Lys Asn Cys Glu Leu Asp Lys Asn Gln Arg 1075 1080 1085	3483		
75	caa tgt gta cag tat gcc ctg aag gcc cgc cca ctg agg tgc tac Gln Cys Val Gln Tyr Ala Leu Lys Ala Arg Pro Leu Arg Cys Tyr 1090 1095 1100	3528		
80	att ccc aaa aac cca tac cag tac cag gtg tgg tac att gtc acc Ile Pro Lys Asn Pro Tyr Gln Tyr Gln Val Trp Tyr Ile Val Thr 1105 1110	3573		

			1105					1110				1115					
		tcc tcc tac ttt	gaa tac ctg atg	ttt	gcc ctc atc atg ctc	aac	3618										
5		Ser Ser Tyr Phe	Glu Tyr Leu Met	Phe	Ala Leu Ile Met Leu	Asn											
		1120		1125		1130											
		acc atc tgc ctc	ggc atg cag cac	tac	aac cag tcg gag cag	atg	3663										
		Thr Ile Cys Leu	Gly Met Gln His	Tyr	Asn Gln Ser Glu Gln	Met											
10		1135		1140		1145											
		aac cac atc tca	gac atc ctc aat	gtg	gcc ttc act atc atc	ttc	3708										
		Asn His Ile Ser	Asp Ile Leu Asn	Val	Ala Phe Thr Ile Ile	Phe											
		1150		1155		1160											
15		acc ctg gag atg	atc ctc aag ctc	atg	gcc ttc aag gcc agg	ggc	3753										
		Thr Leu Glu Met	Ile Leu Lys Leu	Met	Ala Phe Lys Ala Arg	Gly											
		1165		1170		1175											
20		tac ttt gga aac	ccc tgg aat gtg	ttt	gac ttc ctg att gtc	att	3798										
		Tyr Phe Gly Asn	Pro Trp Asn Val	Phe	Asp Phe Leu Ile Val	Ile											
		1180		1185		1190											
25		ggc agc atc att	gat gtc atc ctc	agt	gag atc gac act ttc	ctg	3843										
		Gly Ser Ile Ile	Asp Val Ile Leu	Ser	Glu Ile Asp Thr Phe	Leu											
		1195		1200		1205											
		gcc tcc agc ggg	gga ctg tat tgc	ctg	ggg gga ggc tgc ggg	aac	3888										
		Ala Ser Ser Gly	Gly Leu Tyr Cys	Leu	Gly Gly Gly Cys Gly	Asn											
30		1210		1215		1220											
		gtt gac cca gat	gag agt gcc cgc	atc	tcc agc gcc ttc ttc	cgc	3933										
		Val Asp Pro Asp	Glu Ser Ala Arg	Ile	Ser Ser Ala Phe Phe	Arg											
		1225		1230		1235											
35		ctg ttc cgt gtc	atg agg ctg atc	aag	ctg ctg agc cgg gca	gaa	3978										
		Leu Phe Arg Val	Met Arg Leu Ile	Lys	Leu Leu Ser Arg Ala	Glu											
		1240		1245		1250											
40		gga gtg cga acc	ctc ctg tgg acg	ttc	atc aag tcc ttc cag	gcc	4023										
		Gly Val Arg Thr	Leu Leu Trp Thr	Phe	Ile Lys Ser Phe Gln	Ala											
		1255		1260		1265											
45		cta ccc tac gtg	gct ctg ctc atc	gtc	atg ctc ttc ttc atc	tac	4068										
		Leu Pro Tyr Val	Ala Leu Leu Ile	Val	Met Leu Phe Phe Ile	Tyr											
		1270		1275		1280											
		gct gtc atc ggc	atg cag atg ttt	ggg	aag atc gcc ttg gtg	gat	4113										
		Ala Val Ile Gly	Met Gln Met Phe	Gly	Lys Ile Ala Leu Val	Asp											
50		1285		1290		1295											
		ggg acc caa ata	aac cgg aac aac	aac	ttc cag acc ttc cca	caa	4158										
		Gly Thr Gln Ile	Asn Arg Asn Asn	Asn	Phe Gln Thr Phe Pro	Gln											
		1300		1305		1310											
55		gct gtg cta ctg	ctc ttc agg tgt	gca	aca ggt gag gcc tgg	cag	4203										
		Ala Val Leu Leu	Leu Phe Arg Cys	Ala	Thr Gly Glu Ala Trp	Gln											
		1315		1320		1325											
60		gag atc cta ctg	gcc tgc agc tat	ggg	aag ctg tgt gac cca	gag	4248										
		Glu Ile Leu Leu	Ala Cys Ser Tyr	Gly	Lys Leu Cys Asp Pro	Glu											
		1330		1335		1340											
		tcg gac tat gcc	cca ggg gag gag	tac	aca tgt ggc acc aac	ttt	4293										
		Ser Asp Tyr Ala	Pro Gly Glu Glu	Tyr	Thr Cys Gly Thr Asn	Phe											

			1345					1350					1355				
			gca tac tac tac	ttc atc agc ttc	tac atg ctc tgt gcc ttc	ctg											4338
5			Ala Tyr Tyr Tyr	Phe Ile Ser Phe	Tyr Met Leu Cys Ala Phe	Leu											
			1360		1365								1370				
			gtc atc aac ctc	ttt gtg gct gtc	atc atg gac aat ttt	gac tac											4383
			Val Ile Asn Leu	Phe Val Ala Val	Ile Met Asp Asn Phe	Asp Tyr											
10			1375		1380								1385				
			ctc acc cgg gac	tgg tcc atc ctg	ggc cct cat cac ctg	gat gag											4428
			Leu Thr Arg Asp	Trp Ser Ile Leu	Gly Pro His His Leu	Asp Glu											
			1390		1395								1400				
15			ttc aag gcc atc	tgg gca gag tat	gac cca gag gct aag	ggg agg											4473
			Phe Lys Ala Ile	Trp Ala Glu Tyr	Asp Pro Glu Ala Lys	Gly Arg											
			1405		1410								1415				
			atc aaa cac ctg	gac gtg gtg acc	ctg ctg aga agg att	cag ccc											4518
20			Ile Lys His Leu	Asp Val Val Thr	Leu Leu Arg Arg Ile	Gln Pro											
			1420		1425								1430				
			cct ctg ggc ttt	ggg aag ttc tgc	cca cat cgg gta gct	tgt aag											4563
25			Pro Leu Gly Phe	Gly Lys Phe Cys	Pro His Arg Val Ala	Cys Lys											
			1435		1440								1445				
			cgg ctg gtg ggc	atg aac atg ccc	ctg aac agc gac ggc	aca gtc											4608
			Arg Leu Val Gly	Met Asn Met Pro	Leu Asn Ser Asp Gly	Thr Val											
			1450		1455								1460				
30			acc ttc aat gcc	aca ctc ttt gcc	ctg gtc cgc acg gca	ctc aag											4653
			Thr Phe Asn Ala	Thr Leu Phe Ala	Leu Val Arg Thr Ala	Leu Lys											
			1465		1470								1475				
35			atc aag acg gaa	ggg aac ttt gag	cag gcc aac gag gag	ctg agg											4698
			Ile Lys Thr Glu	Gly Asn Phe Glu	Gln Ala Asn Glu Glu	Leu Arg											
			1480		1485								1490				
			gcc atc atc aag	aag atc tgg aag	aga acc agc atg aag	ctc ttg											4743
40			Ala Ile Ile Lys	Lys Ile Trp Lys	Arg Thr Ser Met Lys	Leu Leu											
			1495		1500								1505				
			gac cag gtc atc	cct cca ata gga	gat gat gag gtg aca	gtg ggg											4788
45			Asp Gln Val Ile	Pro Pro Ile Gly	Asp Asp Glu Val Thr	Val Gly											
			1510		1515								1520				
			aag ttc tac gcc	aca ttc ctc atc	cag gag cac ttc cgg	aag ttc											4833
			Lys Phe Tyr Ala	Thr Phe Leu Ile	Gln Glu His Phe Arg	Lys Phe											
			1525		1530								1535				
50			atg aaa cgc caa	gag gag tat tat	ggc tat cgg ccc aag	aag gac											4878
			Met Lys Arg Gln	Glu Glu Tyr Tyr	Gly Tyr Arg Pro Lys	Lys Asp											
			1540		1545								1550				
55			att gta cag atc	cag gca ggg ctg	cgg acc att gag gaa	gag gca											4923
			Ile Val Gln Ile	Gln Ala Gly Leu	Arg Thr Ile Glu Glu	Glu Ala											
			1555		1560								1565				
			gcc ccc gag atc	tgt cgc acg gtc	tca gga gac ctg gct	gct gag											4968
60			Ala Pro Glu Ile	Cys Arg Thr Val	Ser Gly Asp Leu Ala	Glu Glu											
			1570		1575								1580				
			gag gag ctg gag	aga gcc atg gtg	gag gct gcg atg gag	gag ggg											5013
			Glu Glu Leu Glu	Arg Ala Met Val	Glu Ala Ala Met Glu	Glu Gly											

				1585					1590					1595		
5	ata	ttc	cgg	agg	act	gga	ggc	ctg	ttt	ggc	cag	gtg	gac	aac	ttc	5058
	Ile	Phe	Arg	Arg	Thr	Gly	Gly	Leu	Phe	Gly	Gln	Val	Asp	Asn	Phe	
				1600					1605					1610		
10	ctg	gaa	agg	acc	aac	tcc	ctg	ccc	cct	gtc	atg	gcc	aat	cag	aga	5103
	Leu	Glu	Arg	Thr	Asn	Ser	Leu	Pro	Pro	Val	Met	Ala	Asn	Gln	Arg	
				1615					1620					1625		
15	ccc	ctc	cag	ttt	gct	gag	ata	gag	atg	gaa	gag	atg	gag	tca	cct	5148
	Pro	Leu	Gln	Phe	Ala	Glu	Ile	Glu	Met	Glu	Glu	Met	Glu	Ser	Pro	
				1630					1635					1640		
20	gtc	ttc	ttg	gag	gac	ttc	cca	caa	gat	cca	cgc	acc	aac	ccc	ctg	5193
	Val	Phe	Leu	Glu	Asp	Phe	Pro	Gln	Asp	Pro	Arg	Thr	Asn	Pro	Leu	
				1645					1650					1655		
25	gct	cgt	gcc	aat	acc	aac	aat	gcc	aac	gcc	aat	gtc	gcc	tat	gcg	5238
	Ala	Arg	Ala	Asn	Thr	Asn	Asn	Ala	Asn	Ala	Asn	Val	Ala	Tyr	Ala	
				1660					1665					1670		
30	aac	agc	aac	cat	agc	aac	agc	cat	gtg	ttt	tcc	agt	gtc	cac	tat	5283
	Asn	Ser	Asn	His	Ser	Asn	Ser	His	Val	Phe	Ser	Ser	Val	His	Tyr	
				1675					1680					1685		
35	gaa	agg	gag	ttc	cca	gaa	gag	aca	gag	acg	cct	gct	acc	aga	gga	5328
	Glu	Arg	Glu	Phe	Pro	Glu	Glu	Thr	Glu	Thr	Pro	Ala	Thr	Arg	Gly	
				1690					1695					1700		
40	cga	gcc	ctt	ggc	caa	ccc	tgc	agg	tcc	ctg	gga	ccc	cac	agc	aaa	5373
	Arg	Ala	Leu	Gly	Gln	Pro	Cys	Arg	Ser	Leu	Gly	Pro	His	Ser	Lys	
				1705					1710					1715		
45	ccc	tgt	gtg	gag	atg	ctg	aag	gga	ctg	ctg	acc	cag	agg	gca	atg	5418
	Pro	Cys	Val	Glu	Met	Leu	Lys	Gly	Leu	Leu	Thr	Gln	Arg	Ala	Met	
				1720					1725					1730		
50	ccc	aga	ggc	cag	gca	cct	cct	gcc	ccc	tgc	cag	tgc	ccc	agg	gtg	5463
	Pro	Arg	Gly	Gln	Ala	Pro	Pro	Ala	Pro	Cys	Gln	Cys	Pro	Arg	Val	
				1735					1740					1745		
55	gag	tcc	tcc	atg	cct	gag	gac	aga	aag	agc	tcc	aca	cca	ggg	tct	5508
	Glu	Ser	Ser	Met	Pro	Glu	Asp	Arg	Lys	Ser	Ser	Thr	Pro	Gly	Ser	
				1750					1755					1760		
60	ctt	cat	gag	gag	aca	ccc	cac	agc	agg	agc	acc	agg	gag	aat	act	5553
	Leu	His	Glu	Glu	Thr	Pro	His	Ser	Arg	Ser	Thr	Arg	Glu	Asn	Thr	
				1765					1770					1775		
65	tcc	agg	tgc	tca	gca	cca	gct	aca	gcc	ctg	ctg	atc	caa	aag	gct	5598
	Ser	Arg	Cys	Ser	Ala	Pro	Ala	Thr	Ala	Leu	Leu	Ile	Gln	Lys	Ala	
				1780					1785					1790		
70	ctg	gtt	cga	ggg	ggc	ctg	ggc	acc	ttg	gca	gct	gat	gca	aac	ttc	5643
	Leu	Val	Arg	Gly	Gly	Leu	Gly	Thr	Leu	Ala	Ala	Asp	Ala	Asn	Phe	
				1795					1800					1805		
75	atc	atg	gca	aca	ggc	cag	gcc	ctc	gga	gat	gcc	tgc	caa	atg	gaa	5688
	Ile	Met	Ala	Thr	Gly	Gln	Ala	Leu	Gly	Asp	Ala	Cys	Gln	Met	Glu	
				1810					1815					1820		
80	cca	gag	gaa	gtg	gag	atc	atg	gca	aca	gag	cta	ctg	aaa	gga	cga	5733
	Pro	Glu	Glu	Val	Glu	Ile	Met	Ala	Thr	Glu	Leu	Leu	Lys	Gly	Arg	

	1825	1830	1835	
	gag gcc cca gac	ggc atg gcc agc tcc	ctg gga tgc ctg aac ctc	5778
5	Glu Ala Pro Asp 1840	Gly Met Ala Ser 1845	Leu Gly Cys Leu Asn Leu 1850	
	ggg tcc tcc ctg	ggc agc ctc gac caa	cac cag ggc tcc cag gag	5823
10	Gly Ser Ser Leu 1855	Gly Ser Leu Asp 1860	Gln His Gln Gly Ser Gln Glu 1865	
	acc ctt att cct	cca agg ctg tga	tgccacaca gcatcagcat gggcttagag	5877
	Thr Leu Ile Pro 1870	Pro Arg Leu		
15	ctggcatgac caatgggggt	ggggaagttg ctggggtgga	gaagggtctag cccaccgcag	5937
	cagcctccct ccctctcagc	agctagatgc atgcctgagg	caggggtggtc aggaaccacc	5997
20	tcaaaaagtg cggaggaagt	agctggacag gccctgcccc	tcaccagcaa gaggcattgat	6057
	tggtatggagc ttctaattgtc	attcaaaaag gcctgggtcag	tgctgtgtccc tagggccact	6117
	cccacctgca ggacattaaa	atctccaggc ctgtgacact	ggc	6160
25	<210> 14			
	<211> 1873			
	<212> PRT			
	<213> Homo sapiens			
30	<400> 14			
	Met Glu Pro Ser Ser Pro Gln Asp Glu Gly Leu Arg Lys Lys Gln Pro			
35	1 5 10 15			
	Lys Lys Pro Val Pro Glu Ile Leu Pro Arg Pro Pro Arg Ala Leu Phe			
	20 25 30			
40	Cys Leu Thr Leu Glu Asn Pro Leu Arg Lys Ala Cys Ile Ser Ile Val			
	35 40 45			
	Glu Trp Lys Pro Phe Glu Thr Ile Ile Leu Leu Thr Ile Phe Ala Asn			
	50 55 60			
45	Cys Val Ala Leu Ala Val Tyr Leu Pro Met Pro Glu Asp Asp Asn Asn			
	65 70 75 80			
	Ser Leu Asn Leu Gly Leu Glu Lys Leu Glu Tyr Phe Phe Leu Ile Val			
50	85 90 95			
	Phe Ser Ile Glu Ala Ala Met Lys Ile Ile Ala Tyr Gly Phe Leu Phe			
	100 105 110			
55	His Gln Asp Ala Tyr Leu Arg Ser Gly Trp Asn Val Leu Asp Phe Thr			
	115 120 125			
	Ile Val Phe Leu Gly Val Phe Thr Val Ile Leu Glu Gln Val Asn Val			
	130 135 140			
60	Ile Gln Ser His Thr Ala Pro Met Ser Ser Lys Gly Ala Gly Leu Asp			
	145 150 155 160			
	Val Lys Ala Leu Arg Ala Phe Arg Val Leu Arg Pro Leu Arg Leu Val			
	165 170 175			



	Ser	Gly	Val	Pro	Ser	Leu	Gln	Val	Val	Leu	Asn	Ser	Ile	Phe	Lys	Ala	
				180					185					190			
5	Met	Leu	Pro	Leu	Phe	His	Ile	Ala	Leu	Leu	Val	Leu	Phe	Met	Val	Ile	
			195					200					205				
	Ile	Tyr	Ala	Ile	Ile	Gly	Leu	Glu	Leu	Phe	Lys	Gly	Lys	Met	His	Lys	
		210					215					220					
10	Thr	Cys	Tyr	Phe	Ile	Gly	Thr	Asp	Ile	Val	Ala	Thr	Val	Glu	Asn	Glu	
	225					230					235					240	
	Glu	Pro	Ser	Pro	Cys	Ala	Arg	Thr	Gly	Ser	Gly	Arg	Arg	Cys	Thr	Ile	
15					245					250					255		
	Asn	Gly	Ser	Glu	Cys	Arg	Gly	Gly	Cys	Pro	Gly	Pro	Asn	His	Gly	Ile	
				260					265					270			
20	Thr	His	Phe	Asp	Asn	Phe	Gly	Phe	Ser	Met	Leu	Thr	Val	Tyr	Gln	Cys	
			275					280					285				
	Ile	Thr	Met	Glu	Gly	Trp	Thr	Asp	Val	Leu	Tyr	Trp	Val	Asn	Asp	Ala	
25		290					295					300					
	Ile	Gly	Asn	Glu	Trp	Pro	Trp	Ile	Tyr	Phe	Val	Thr	Leu	Ile	Leu	Leu	
	305					310					315					320	
30	Gly	Ser	Phe	Phe	Ile	Leu	Asn	Leu	Val	Leu	Gly	Val	Leu	Ser	Gly	Glu	
					325					330					335		
	Phe	Thr	Lys	Glu	Arg	Glu	Lys	Ala	Lys	Ser	Arg	Gly	Thr	Phe	Gln	Lys	
				340					345					350			
35	Leu	Arg	Glu	Lys	Gln	Gln	Leu	Asp	Glu	Asp	Leu	Arg	Gly	Tyr	Met	Ser	
			355					360					365				
	Trp	Ile	Thr	Gln	Gly	Glu	Val	Met	Asp	Val	Glu	Asp	Phe	Arg	Glu	Gly	
40		370					375					380					
	Lys	Leu	Ser	Leu	Asp	Glu	Gly	Gly	Ser	Asp	Thr	Glu	Ser	Leu	Tyr	Glu	
	385				390						395					400	
45	Ile	Ala	Gly	Leu	Asn	Lys	Ile	Ile	Gln	Phe	Ile	Arg	His	Trp	Arg	Gln	
					405					410					415		
	Trp	Asn	Arg	Ile	Phe	Arg	Trp	Lys	Cys	His	Asp	Ile	Val	Lys	Ser	Lys	
				420					425					430			
50	Val	Phe	Tyr	Trp	Leu	Val	Ile	Leu	Ile	Val	Ala	Leu	Asn	Thr	Leu	Ser	
			435					440					445				
	Ile	Ala	Ser	Glu	His	His	Asn	Gln	Pro	His	Trp	Leu	Thr	Arg	Leu	Gln	
55		450					455					460					
	Asp	Ile	Ala	Asn	Arg	Val	Leu	Leu	Ser	Leu	Phe	Thr	Thr	Glu	Met	Leu	
	465				470						475					480	
60	Met	Lys	Met	Tyr	Gly	Leu	Gly	Leu	Arg	Gln	Tyr	Phe	Met	Ser	Ile	Phe	
					485					490					495		
	Asn	Arg	Phe	Asp	Cys	Phe	Val	Val	Cys	Ser	Gly	Ile	Leu	Glu	Ile	Leu	
				500					505					510			

	Leu Val Glu Ser Gly Ala Met Thr Pro Leu Gly Ile Ser Val Leu Arg
	515 520 525
5	Cys Ile Arg Leu Leu Arg Ile Phe Lys Ile Thr Lys Tyr Trp Thr Ser
	530 535 540
	Leu Ser Asn Leu Val Ala Ser Leu Leu Asn Ser Ile Arg Ser Ile Ala
	545 550 555 560
10	Ser Leu Leu Leu Leu Leu Phe Leu Phe Ile Val Ile Phe Arg Leu Leu
	565 570 575
	Gly Met Gln Leu Phe Gly Gly Arg Tyr Asp Phe Glu Asp Thr Glu Val
15	580 585 590
	Arg Arg Ser Asn Phe Asp Asn Phe Pro Gln Ala Leu Ile Ser Val Phe
	595 600 605
20	Gln Val Leu Thr Gly Glu Asp Trp Thr Ser Met Met Tyr Asn Gly Ile
	610 615 620
	Met Ala Ser Ser Gly Pro Ser Tyr Pro Gly Met Leu Val Cys Ile Tyr
25	625 630 635 640
	Phe Ile Ile Leu Phe Val Cys Gly Asn Tyr Ile Leu Leu Asn Val Phe
	645 650 655
30	Leu Ala Ile Ala Val Asp Asn Leu Ala Glu Ala Glu Ser Leu Thr Ser
	660 665 670
	Ala Gln Lys Ala Lys Ala Glu Glu Lys Lys Arg Arg Lys Met Ser Lys
	675 680 685
35	Gly Leu Pro Asp Lys Ser Glu Glu Glu Lys Ser Thr Met Ala Lys Lys
	690 695 700
	Leu Glu Gln Lys Pro Lys Gly Glu Gly Ile Pro Thr Thr Ala Lys Leu
40	705 710 715 720
	Lys Ile Asp Glu Phe Glu Ser Asn Val Asn Glu Val Lys Asp Pro Tyr
	725 730 735
45	Pro Ser Ala Asp Phe Pro Gly Asp Asp Glu Glu Asp Glu Pro Glu Ile
	740 745 750
	Pro Leu Ser Pro Arg Pro Arg Pro Leu Ala Glu Leu Gln Leu Lys Glu
	755 760 765
50	Lys Ala Val Pro Ile Pro Glu Ala Ser Ser Phe Phe Ile Phe Ser Pro
	770 775 780
	Thr Asn Lys Ile Arg Val Leu Cys His Arg Ile Val Asn Ala Thr Trp
55	785 790 795 800
	Phe Thr Asn Phe Ile Leu Leu Phe Ile Leu Leu Ser Ser Ala Ala Leu
	805 810 815
60	Ala Ala Glu Asp Pro Ile Arg Ala Asp Ser Met Arg Asn Gln Ile Leu
	820 825 830
	Lys His Phe Asp Ile Gly Phe Thr Ser Val Phe Thr Val Glu Ile Val
	835 840 845

	Leu	Lys	Met	Thr	Thr	Tyr	Gly	Ala	Phe	Leu	His	Lys	Gly	Ser	Phe	Cys	
	850						855					860					
5	Arg	Asn	Tyr	Phe	Asn	Met	Leu	Asp	Leu	Leu	Val	Val	Ala	Val	Ser	Leu	
	865					870					875					880	
	Ile	Ser	Met	Gly	Leu	Glu	Ser	Ser	Ala	Ile	Ser	Val	Val	Lys	Ile	Leu	
					885					890					895		
10	Arg	Val	Leu	Arg	Val	Leu	Arg	Pro	Leu	Arg	Ala	Ile	Asn	Arg	Ala	Lys	
				900					905					910			
	Gly	Leu	Lys	His	Val	Ala	Arg	Cys	Met	Phe	Val	Ala	Ile	Ser	Thr	Ile	
15			915					920					925				
	Gly	Asn	Ile	Val	Leu	Val	Thr	Thr	Leu	Leu	Gln	Phe	Met	Phe	Ala	Cys	
	930						935					940					
20	Ile	Gly	Val	Gln	Leu	Phe	Lys	Gly	Lys	Phe	Phe	Arg	Cys	Thr	Asp	Leu	
	945					950					955					960	
	Ser	Lys	Met	Thr	Glu	Glu	Cys	Arg	Gly	Tyr	Tyr	Tyr	Val	Tyr	Lys		
25					965				970						975		
	Asp	Gly	Asp	Pro	Met	Gln	Ile	Glu	Leu	Arg	His	Arg	Glu	Trp	Val	His	
				980					985					990			
30	Ser	Asp	Phe	His	Phe	Asp	Asn	Val	Leu	Ser	Ala	Met	Met	Ser	Leu	Phe	
			995					1000					1005				
	Thr	Val	Ser	Thr	Phe	Glu	Gly	Trp	Pro	Gln	Leu	Leu	Tyr	Lys	Ala		
	1010						1015					1020					
35	Ile	Asp	Ser	Asn	Ala	Glu	Asp	Val	Gly	Pro	Ile	Tyr	Asn	Asn	Arg		
	1025						1030					1035					
	Val	Glu	Met	Ala	Ile	Phe	Phe	Ile	Ile	Tyr	Ile	Ile	Leu	Ile	Ala		
40		1040					1045					1050					
	Phe	Phe	Met	Met	Asn	Ile	Phe	Val	Gly	Phe	Val	Ile	Val	Thr	Phe		
	1055						1060					1065					
45	Gln	Glu	Gln	Gly	Glu	Thr	Glu	Tyr	Lys	Asn	Cys	Glu	Leu	Asp	Lys		
	1070						1075					1080					
	Asn	Gln	Arg	Gln	Cys	Val	Gln	Tyr	Ala	Leu	Lys	Ala	Arg	Pro	Leu		
	1085						1090					1095					
50	Arg	Cys	Tyr	Ile	Pro	Lys	Asn	Pro	Tyr	Gln	Tyr	Gln	Val	Trp	Tyr		
	1100						1105					1110					
	Ile	Val	Thr	Ser	Ser	Tyr	Phe	Glu	Tyr	Leu	Met	Phe	Ala	Leu	Ile		
55		1115					1120					1125					
	Met	Leu	Asn	Thr	Ile	Cys	Leu	Gly	Met	Gln	His	Tyr	Asn	Gln	Ser		
	1130						1135					1140					
60	Glu	Gln	Met	Asn	His	Ile	Ser	Asp	Ile	Leu	Asn	Val	Ala	Phe	Thr		
	1145						1150					1155					
	Ile	Ile	Phe	Thr	Leu	Glu	Met	Ile	Leu	Lys	Leu	Met	Ala	Phe	Lys		
	1160						1165					1170					

	Ala	Arg	Gly	Tyr	Phe	Gly	Asn	Pro	Trp	Asn	Val	Phe	Asp	Phe	Leu
	1175						1180					1185			
5	Ile	Val	Ile	Gly	Ser	Ile	Ile	Asp	Val	Ile	Leu	Ser	Glu	Ile	Asp
	1190						1195					1200			
	Thr	Phe	Leu	Ala	Ser	Ser	Gly	Gly	Leu	Tyr	Cys	Leu	Gly	Gly	Gly
	1205						1210					1215			
10	Cys	Gly	Asn	Val	Asp	Pro	Asp	Glu	Ser	Ala	Arg	Ile	Ser	Ser	Ala
	1220						1225					1230			
	Phe	Phe	Arg	Leu	Phe	Arg	Val	Met	Arg	Leu	Ile	Lys	Leu	Leu	Ser
15	1235						1240					1245			
	Arg	Ala	Glu	Gly	Val	Arg	Thr	Leu	Leu	Trp	Thr	Phe	Ile	Lys	Ser
	1250						1255					1260			
20	Phe	Gln	Ala	Leu	Pro	Tyr	Val	Ala	Leu	Leu	Ile	Val	Met	Leu	Phe
	1265						1270					1275			
	Phe	Ile	Tyr	Ala	Val	Ile	Gly	Met	Gln	Met	Phe	Gly	Lys	Ile	Ala
25	1280						1285					1290			
	Leu	Val	Asp	Gly	Thr	Gln	Ile	Asn	Arg	Asn	Asn	Asn	Phe	Gln	Thr
	1295						1300					1305			
30	Phe	Pro	Gln	Ala	Val	Leu	Leu	Leu	Phe	Arg	Cys	Ala	Thr	Gly	Glu
	1310						1315					1320			
	Ala	Trp	Gln	Glu	Ile	Leu	Leu	Ala	Cys	Ser	Tyr	Gly	Lys	Leu	Cys
	1325						1330					1335			
35	Asp	Pro	Glu	Ser	Asp	Tyr	Ala	Pro	Gly	Glu	Glu	Tyr	Thr	Cys	Gly
	1340						1345					1350			
	Thr	Asn	Phe	Ala	Tyr	Tyr	Tyr	Phe	Ile	Ser	Phe	Tyr	Met	Leu	Cys
40	1355						1360					1365			
	Ala	Phe	Leu	Val	Ile	Asn	Leu	Phe	Val	Ala	Val	Ile	Met	Asp	Asn
	1370						1375					1380			
45	Phe	Asp	Tyr	Leu	Thr	Arg	Asp	Trp	Ser	Ile	Leu	Gly	Pro	His	His
	1385						1390					1395			
	Leu	Asp	Glu	Phe	Lys	Ala	Ile	Trp	Ala	Glu	Tyr	Asp	Pro	Glu	Ala
	1400						1405					1410			
50	Lys	Gly	Arg	Ile	Lys	His	Leu	Asp	Val	Val	Thr	Leu	Leu	Arg	Arg
	1415						1420					1425			
	Ile	Gln	Pro	Pro	Leu	Gly	Phe	Gly	Lys	Phe	Cys	Pro	His	Arg	Val
55	1430						1435					1440			
	Ala	Cys	Lys	Arg	Leu	Val	Gly	Met	Asn	Met	Pro	Leu	Asn	Ser	Asp
	1445						1450					1455			
60	Gly	Thr	Val	Thr	Phe	Asn	Ala	Thr	Leu	Phe	Ala	Leu	Val	Arg	Thr
	1460						1465					1470			
	Ala	Leu	Lys	Ile	Lys	Thr	Glu	Gly	Asn	Phe	Glu	Gln	Ala	Asn	Glu
	1475						1480					1485			

	Glu	Leu	Arg	Ala	Ile	Ile	Lys	Lys	Ile	Trp	Lys	Arg	Thr	Ser	Met
	1490						1495					1500			
5	Lys	Leu	Leu	Asp	Gln	Val	Ile	Pro	Pro	Ile	Gly	Asp	Asp	Glu	Val
	1505						1510					1515			
	Thr	Val	Gly	Lys	Phe	Tyr	Ala	Thr	Phe	Leu	Ile	Gln	Glu	His	Phe
	1520						1525					1530			
10	Arg	Lys	Phe	Met	Lys	Arg	Gln	Glu	Glu	Tyr	Tyr	Gly	Tyr	Arg	Pro
	1535						1540					1545			
15	Lys	Lys	Asp	Ile	Val	Gln	Ile	Gln	Ala	Gly	Leu	Arg	Thr	Ile	Glu
	1550						1555					1560			
	Glu	Glu	Ala	Ala	Pro	Glu	Ile	Cys	Arg	Thr	Val	Ser	Gly	Asp	Leu
	1565						1570					1575			
20	Ala	Ala	Glu	Glu	Glu	Leu	Glu	Arg	Ala	Met	Val	Glu	Ala	Ala	Met
	1580						1585					1590			
25	Glu	Glu	Gly	Ile	Phe	Arg	Arg	Thr	Gly	Gly	Leu	Phe	Gly	Gln	Val
	1595						1600					1605			
	Asp	Asn	Phe	Leu	Glu	Arg	Thr	Asn	Ser	Leu	Pro	Pro	Val	Met	Ala
	1610						1615					1620			
30	Asn	Gln	Arg	Pro	Leu	Gln	Phe	Ala	Glu	Ile	Glu	Met	Glu	Glu	Met
	1625						1630					1635			
	Glu	Ser	Pro	Val	Phe	Leu	Glu	Asp	Phe	Pro	Gln	Asp	Pro	Arg	Thr
	1640						1645					1650			
35	Asn	Pro	Leu	Ala	Arg	Ala	Asn	Thr	Asn	Asn	Ala	Asn	Ala	Asn	Val
	1655						1660					1665			
40	Ala	Tyr	Ala	Asn	Ser	Asn	His	Ser	Asn	Ser	His	Val	Phe	Ser	Ser
	1670						1675					1680			
	Val	His	Tyr	Glu	Arg	Glu	Phe	Pro	Glu	Glu	Thr	Glu	Thr	Pro	Ala
	1685						1690					1695			
45	Thr	Arg	Gly	Arg	Ala	Leu	Gly	Gln	Pro	Cys	Arg	Ser	Leu	Gly	Pro
	1700						1705					1710			
	His	Ser	Lys	Pro	Cys	Val	Glu	Met	Leu	Lys	Gly	Leu	Leu	Thr	Gln
	1715						1720					1725			
50	Arg	Ala	Met	Pro	Arg	Gly	Gln	Ala	Pro	Pro	Ala	Pro	Cys	Gln	Cys
	1730						1735					1740			
55	Pro	Arg	Val	Glu	Ser	Ser	Met	Pro	Glu	Asp	Arg	Lys	Ser	Ser	Thr
	1745						1750					1755			
	Pro	Gly	Ser	Leu	His	Glu	Glu	Thr	Pro	His	Ser	Arg	Ser	Thr	Arg
	1760						1765					1770			
60	Glu	Asn	Thr	Ser	Arg	Cys	Ser	Ala	Pro	Ala	Thr	Ala	Leu	Leu	Ile
	1775						1780					1785			
	Gln	Lys	Ala	Leu	Val	Arg	Gly	Gly	Leu	Gly	Thr	Leu	Ala	Ala	Asp
	1790						1795					1800			

	Ala Asn Phe Ile Met Ala Thr Gly Gln Ala Leu Gly Asp Ala Cys	
	1805 1810 1815	
5	Gln Met Glu Pro Glu Glu Val Glu Ile Met Ala Thr Glu Leu Leu	
	1820 1825 1830	
	Lys Gly Arg Glu Ala Pro Asp Gly Met Ala Ser Ser Leu Gly Cys	
	1835 1840 1845	
10	Leu Asn Leu Gly Ser Ser Leu Gly Ser Leu Asp Gln His Gln Gly	
	1850 1855 1860	
	Ser Gln Glu Thr Leu Ile Pro Pro Arg Leu	
15	1865 1870	
	<210> 15	
	<211> 7362	
20	<212> DNA	
	<213> Homo sapiens	
	<220>	
25	<221> gene	
	<222> (1)..(7362)	
	<220>	
	<221> CDS	
30	<222> (1516)..(6834)	
	<220>	
	<221> misc_feature	
	<222> (1516)..(6834)	
35	<223> n is dATP, dCTP, dGTP, or dTTP	
	<220>	
	<221> misc_feature	
	<222> (1516)..(6834)	
40	<223> Xaa is any amino acid	
	<400> 15	
	agaataaggg cagggaccgc ggctcctacc tcttggtgat ccccttcccc attccgcccc	60
45	cgctcaacg cccagcacag tgccctgcac acagtagtcg ctcaataaat gttcgtggat	120
	gatgatgatg atgatgatga aaaaaatgca gcatcaacgg cagcagcaag cggaccacgc	180
50	gaacgaggca aactatgcaa gaggcaccag acttcctctt tctggtgaag gaccaacttc	240
	tcagccgaat agctccaagc aaactgtcct gtcttggcaa gctgcaatcg atgctgctag	300
	acaggccaag gctgccc aaa ctatgagcac ctctgcaccc ccacctgtag gatctctctc	360
55	ccaaagaaaa cgtcagcaat acgccaagag caaaaaacag ggtaactcgt ccaacagccg	420
	acctgcccgc gcccttttct gtttatcact caataacccc atccgaagag cctgcattag	480
60	tatagtggaa tggaaacat ttgacatatt tatattattg gctatttttg ccaattgtgt	540
	ggccttagct atttacatcc cattccctga agatgattct aattcaaaa atcataactt	600
	ggaaaaagta gaatatgcct tcttgattat ttttacagtc gagacatttt tgaagattat	660

	agcgtatgga ttattgctac atcctaatagc ttatgtagg aatggatgga atttactgga	720
	ttttgttata gtaatagtag gattgttttag tgtaattttg gaacaattaa ccaaagaaac	780
5	agaaggcggg aaccactcaa gcggcaaatac tggaggcttt gatgtcaaag ccctccgtgc	840
	ctttcgagtg ttgcgaccac ttcgactagt gtcaggagtg cccagtttac aagttgtcct	900
10	gaactccatt ataaaagcca tggttccct ccttcacata gcccttttgg tattatttgt	960
	aatcataatc tatgctatta taggattgga acttttttatt ggaaaaatgc acaaaacatg	1020
	tttttttgcg gactcagata tcgtagctga agaggaccca gctccatgtg cgttctcagg	1080
15	gaatggacgc cagtgtactg ccaatggcac ggaatgtagg agtggctggg ttggcccgaa	1140
	cggaggcatc accaactttg ataactttgc ctttgccatg cttactgtgt ttcagtgcac	1200
20	caccatggag ggctggacag atgtgctcta ctgggtaaat gatgcgtag gatgggaatg	1260
	gccatgggtg tattttgtta gtctgatcat ccttggtca tttttcgtcc ttaacctggc	1320
	tcatttttcg tccttatcag agaattctca aaggaaagag agaaggcaaa agcacgggga	1380
25	gatttccaga agctccggga gaagcagcag ctggaggagg atctaaaggg ctacttggat	1440
	tggatcacc cagctgagga catcgatccg gagaatgagg aagaaggagg agaggaaggc	1500
30	aaacgaaata ctagc atg ccc acc agc gag act gag tct gtg aac aca gag	1551
	Met Pro Thr Ser Glu Thr Glu Ser Val Asn Thr Glu	
	1 5 10	
35	aac gtc agc ggt gaa ggc gag aac cga ggc tgc tgt gga agt ctc tgg	1599
	Asn Val Ser Gly Glu Gly Glu Asn Arg Gly Cys Cys Gly Ser Leu Trp	
	15 20 25	
40	tgc tgg tgg aga cgg aga ggc gcg gcc aag gcg ggg ccc tct ggg tgt	1647
	Cys Trp Trp Arg Arg Arg Gly Ala Ala Lys Ala Gly Pro Ser Gly Cys	
	30 35 40	
45	cgg cgg tgg ggt caa gcc atc tca aaa tcc aaa ctc agc cga cgc tgg	1695
	Arg Arg Trp Gly Gln Ala Ile Ser Lys Ser Lys Leu Ser Arg Arg Trp	
	45 50 55 60	
50	cgt cgc tgg aac cga ttc aat cgc aga aga tgt agg gcc gcc gtg aag	1743
	Arg Arg Trp Asn Arg Phe Asn Arg Arg Arg Cys Arg Ala Ala Val Lys	
	65 70 75	
55	tct gtc acg ttt tac tgg ctg gtt atc gtc ctg gtg ttt ctg aac acc	1791
	Ser Val Thr Phe Tyr Trp Leu Val Ile Val Leu Val Phe Leu Asn Thr	
	80 85 90	
60	tta acc att tcc tct gag cac tac aat cag cca gat tgg ttg aca cag	1839
	Leu Thr Ile Ser Ser Glu His Tyr Asn Gln Pro Asp Trp Leu Thr Gln	
	95 100 105	
65	att caa gat atg ccc aac aaa gtc ctc ttg gct ctg ttc acc tgc gag	1887
	Ile Gln Asp Met Pro Asn Lys Val Leu Leu Ala Leu Phe Thr Cys Glu	
	110 115 120	
70	atg ctg gta aaa atg tac agc ttg ggc ctc caa gca tat ttc gtc tct	1935
	Met Leu Val Lys Met Tyr Ser Leu Gly Leu Gln Ala Tyr Phe Val Ser	
	125 130 135 140	

	ctt ttc aac cgg ttt gat tgc ttc gtg gtg tgt ggt gga atc act gag	1983
	Leu Phe Asn Arg Phe Asp Cys Phe Val Val Cys Gly Gly Ile Thr Glu	
	145 150 155	
5	acg atc ttg gtg gaa ctg gaa atc atg tct ccc ctg ggg atc tct gtg	2031
	Thr Ile Leu Val Glu Leu Glu Ile Met Ser Pro Leu Gly Ile Ser Val	
	160 165 170	
10	ttt cgg tgt gtg cgc ctc tta aga atc ttc aaa gtg acc agg cac tgg	2079
	Phe Arg Cys Val Arg Leu Leu Arg Ile Phe Lys Val Thr Arg His Trp	
	175 180 185	
15	act tcc ctg agc aac tta gtg gca tcc tta tta aac tcc atg aag tcc	2127
	Thr Ser Leu Ser Asn Leu Val Ala Ser Leu Leu Asn Ser Met Lys Ser	
	190 195 200	
20	atc gct tcg ctg ttg ctt ctg ctt ttt ctc ttc att atc atc ttt tcc	2175
	Ile Ala Ser Leu Leu Leu Leu Phe Leu Phe Ile Ile Ile Phe Ser	
	205 210 215 220	
25	ttg ctt ggg atg cag ctg ttt ggc ggc aag ttt aat ttt gat gaa acg	2223
	Leu Leu Gly Met Gln Leu Phe Gly Gly Lys Phe Asn Phe Asp Glu Thr	
	225 230 235	
30	caa acc aag cgg agc acc ttt gac aat ttc cct caa gca ctt ctc aca	2271
	Gln Thr Lys Arg Ser Thr Phe Asp Asn Phe Pro Gln Ala Leu Leu Thr	
	240 245 250	
35	gtg ttc cag atc ctg aca ggc gaa gac tgg aat gct gtg atg tac gat	2319
	Val Phe Gln Ile Leu Thr Gly Glu Asp Trp Asn Ala Val Met Tyr Asp	
	255 260 265	
40	ggc atc atg gct tac ggg ggc cca tcc tct tca gga atg atc gtc tgc	2367
	Gly Ile Met Ala Tyr Gly Gly Pro Ser Ser Ser Gly Met Ile Val Cys	
	270 275 280	
45	atc tac ttc atc atc ctc ttc att tgt ggt aac tat att cta ctg aat	2415
	Ile Tyr Phe Ile Ile Leu Phe Ile Cys Gly Asn Tyr Ile Leu Leu Asn	
	285 290 295 300	
50	gtc ttc ttg gcc atc gct gta gac aat ttg gct gat gct gaa agt ctg	2463
	Val Phe Leu Ala Ile Ala Val Asp Asn Leu Ala Asp Ala Glu Ser Leu	
	305 310 315	
55	aac act gct cag aaa gaa gaa gcg gaa gaa aag gag agg aaa aag att	2511
	Asn Thr Ala Gln Lys Glu Glu Ala Glu Glu Lys Glu Arg Lys Lys Ile	
	320 325 330	
60	gcc aga aaa gag agc cta gaa aat aaa aag aac aac aaa cca gaa gtc	2559
	Ala Arg Lys Glu Ser Leu Glu Asn Lys Lys Asn Asn Lys Pro Glu Val	
	335 340 345	
65	aac cag ata gcc aac agt gac aac aag gtt aca att gat gac tat aga	2607
	Asn Gln Ile Ala Asn Ser Asp Asn Lys Val Thr Ile Asp Asp Tyr Arg	
	350 355 360	
70	gaa gag gat gaa gac aag gac ccc tat ccg cct tgc gat gtg cca ggt	2655
	Glu Glu Asp Glu Asp Lys Asp Pro Tyr Pro Pro Cys Asp Val Pro Gly	
	365 370 375 380	
75	atg gtg gnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn nnn	2703
	Met Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa	



						385										390																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				</
--	--	--	--	--	--	-----	--	--	--	--	--	--	--	--	--	-----	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	----

			640					645					650						
			tat	cgc	tgt	acg	gat	gaa	gcc	aaa	agt	aac	cct	gaa	gaa	tgc	agg	gga	3519
			Tyr	Arg	Cys	Thr	Asp	Glu	Ala	Lys	Ser	Asn	Pro	Glu	Glu	Cys	Arg	Gly	
5					655					660						665			
			ctt	ttc	atc	ctc	tac	aag	gat	ggg	gat	gtt	gac	agt	cct	gtg	gtc	cgt	3567
			Leu	Phe	Ile	Leu	Tyr	Lys	Asp	Gly	Asp	Val	Asp	Ser	Pro	Val	Val	Arg	
10					670					675						680			
			gaa	cgg	atc	tgg	caa	aac	agt	gat	ttc	aac	ttc	gac	aac	gtc	ctc	tct	3615
			Glu	Arg	Ile	Trp	Gln	Asn	Ser	Asp	Phe	Asn	Phe	Asp	Asn	Val	Leu	Ser	
					685					690						695		700	
15			gct	atg	atg	gcg	ctc	ttc	aca	gtc	tcc	acg	ttt	gag	ggc	tgg	cct	gcg	3663
			Ala	Met	Met	Ala	Leu	Phe	Thr	Val	Ser	Thr	Phe	Glu	Gly	Trp	Pro	Ala	
							705					710					715		
20			ttg	ctg	tat	aaa	gcc	atc	gac	tcg	aat	gga	gag	aac	atc	ggc	cca	atc	3711
			Leu	Leu	Tyr		Lys	Ala	Ile	Asp	Ser	Asn	Gly	Glu	Asn	Ile	Gly	Pro	
							720					725					730		
25			tac	aac	cac	cgc	gtg	gag	atc	tcc	atc	ttc	ttc	atc	atc	tac	atc	atc	3759
			Tyr	Asn	His	Arg	Val	Glu	Ile	Ser	Ile	Phe	Phe	Ile	Ile	Tyr	Ile	Ile	
							735				740					745			
30			att	gta	gct	ttc	ttc	atg	atg	aac	atc	ttt	gtg	ggc	ttt	gtc	atc	gtt	3807
			Ile	Val	Ala	Phe	Phe	Met	Met	Asn	Ile	Phe	Val	Gly	Phe	Val	Ile	Val	
							750				755					760			
			aca	ttt	cag	gaa	caa	gga	gaa	aaa	gag	tat	aag	aac	tgt	gag	ctg	gac	3855
			Thr	Phe	Gln	Glu	Gln	Gly	Glu	Lys	Glu	Tyr	Lys	Asn	Cys	Glu	Leu	Asp	
								765								775		780	
35			aaa	aat	cag	cgt	cag	tgt	gtt	gaa	tac	gcc	ttg	aaa	gca	cgt	ccc	ttg	3903
			Lys	Asn	Gln	Arg	Gln	Cys	Val	Glu	Tyr	Ala	Leu	Lys	Ala	Arg	Pro	Leu	
							785						790				795		
40			cgg	aga	tac	atc	ccc	aaa	aac	ccc	tac	cag	tac	aag	ttc	tgg	tac	gtg	3951
			Arg	Arg	Tyr		Ile	Pro	Lys	Asn	Pro	Tyr	Gln	Tyr	Lys	Phe	Trp	Tyr	
							800					805					810		
45			gtg	aac	tct	tcg	cct	ttc	gaa	tac	atg	atg	ttt	gtc	ctc	atc	atg	ctc	3999
			Val	Asn	Ser	Ser	Pro	Phe	Glu	Tyr	Met	Met	Phe	Val	Leu	Ile	Met	Leu	
							815					820				825			
50			aac	aca	ctc	tgc	ttg	gcc	atg	cag	cac	tac	gag	cag	tcc	aag	atg	ttc	4047
			Asn	Thr	Leu	Cys	Leu	Ala	Met	Gln	His	Tyr	Glu	Gln	Ser	Lys	Met	Phe	
							830				835					840			
			aat	gat	gcc	atg	gac	att	ctg	aac	atg	gtc	ttc	acc	ggg	gtg	ttc	acc	4095
			Asn	Asp	Ala	Met	Asp	Ile	Leu	Asn	Met	Val	Phe	Thr	Gly	Val	Phe	Thr	
							845					850				855		860	
55			gtc	gag	atg	gtt	ttg	aaa	gtc	atc	gca	ttt	aag	cct	aag	ggg	tat	ttt	4143
			Val	Glu	Met	Val	Leu	Lys	Val	Ile	Ala	Phe	Lys	Pro	Lys	Gly	Tyr	Phe	
							865					870					875		
60			agt	gac	gcc	tgg	aac	acg	ttt	gac	tcc	ctc	atc	gta	atc	ggc	agc	att	4191
			Ser	Asp	Ala	Trp	Asn	Thr	Phe	Asp	Ser	Leu	Ile	Val	Ile	Gly	Ser	Ile	
							880					885					890		
			ata	gac	gtg	gcc	ctc	agc	gaa	gca	aag	cca	act	gaa	agt	gaa	aat	gtc	4239
			Ile	Asp	Val	Ala	Leu	Ser	Glu	Ala	Lys	Pro	Thr	Glu	Ser	Glu	Asn	Val	

	895		900		905		
	cct gtc cca act gct aca cct ggg aac tct gaa gag agc aat aga atc	4287					
5	Pro Val Pro Thr Ala Thr Pro Gly Asn Ser Glu Glu Ser Asn Arg Ile						
	910 915 920						
	tcc atc acc ttt ttc cgt ctt ttc cga gtg atg cga ttg gtg aag ctt	4335					
10	Ser Ile Thr Phe Phe Arg Leu Phe Arg Val Met Arg Leu Val Lys Leu						
	925 930 935 940						
	ctc agc agg ggg gaa ggc atc cgg aca ttg ctg tgg act ttt att aag	4383					
	Leu Ser Arg Gly Glu Gly Ile Arg Thr Leu Leu Trp Thr Phe Ile Lys						
	945 950 955						
15	tcc ttt cag gcg ctc ccg tat gtg gcc ctc ctc ata gcc atg ctg ttc	4431					
	Ser Phe Gln Ala Leu Pro Tyr Val Ala Leu Leu Ile Ala Met Leu Phe						
	960 965 970						
20	ttc atc tat gcg gtc att ggc atg cag atg ttt ggg aaa gtt gcc atg	4479					
	Phe Ile Tyr Ala Val Ile Gly Met Gln Met Phe Gly Lys Val Ala Met						
	975 980 985						
	aga gat aac aac cag atc aat agg aac aat aac ttc cag acg ttt ccc	4527					
25	Arg Asp Asn Asn Gln Ile Asn Arg Asn Asn Asn Phe Gln Thr Phe Pro						
	990 995 1000						
	cag gcg gtg ctg ctg ctc ttc agg tgt gca aca ggt gag gcc tgg	4572					
30	Gln Ala Val Leu Leu Leu Phe Arg Cys Ala Thr Gly Glu Ala Trp						
	1005 1010 1015						
	cag gag atc atg ctg gcc tgt ctc cca ggg aag ctc tgt gac cct	4617					
	Gln Glu Ile Met Leu Ala Cys Leu Pro Gly Lys Leu Cys Asp Pro						
	1020 1025 1030						
35	gag tca gat tac aac ccc ggg gag gag tat aca tgt ggg agc aac	4662					
	Glu Ser Asp Tyr Asn Pro Gly Glu Glu Tyr Thr Cys Gly Ser Asn						
	1035 1040 1045						
40	ttt gcc att gtc tat ttc atc agt ttt tac atg ctc tgt gca ttt	4707					
	Phe Ala Ile Val Tyr Phe Ile Ser Phe Tyr Met Leu Cys Ala Phe						
	1050 1055 1060						
	ctg atc atc aat ctg ttt gtg gct gtc atc atg gat aat ttc gac	4752					
45	Leu Ile Ile Asn Leu Phe Val Ala Val Ile Met Asp Asn Phe Asp						
	1065 1070 1075						
	tat ctg acc cgg gac tgg tct att ttg ggg cct cac cat tta gat	4797					
50	Tyr Leu Thr Arg Asp Trp Ser Ile Leu Gly Pro His His Leu Asp						
	1080 1085 1090						
	gaa ttc aaa aga ata tgg tca gaa tat gac cct gag gca aag gga	4842					
	Glu Phe Lys Arg Ile Trp Ser Glu Tyr Asp Pro Glu Ala Lys Gly						
	1095 1100 1105						
55	agg ata aaa cac ctt gat gtg gtc act ctg ctt cga cgc atc cag	4887					
	Arg Ile Lys His Leu Asp Val Val Thr Leu Leu Arg Arg Ile Gln						
	1110 1115 1120						
60	cct ccc ctg ggg ttt ggg aag tta tgt cca cac agg gta gcg tgc	4932					
	Pro Pro Leu Gly Phe Gly Lys Leu Cys Pro His Arg Val Ala Cys						
	1125 1130 1135						
	aag aga tta gtt gcc atg aac atg cct ctc aac agt gac ggg aca	4977					
	Lys Arg Leu Val Ala Met Asn Met Pro Leu Asn Ser Asp Gly Thr						

	1140		1145		1150	
5	gtc atg ttt aat gca acc Val Met Phe Asn Ala Thr 1155	ctg ttt gct ttg gtt Leu Phe Ala Leu Val 1160	cga acg gct ctt Arg Thr Ala Leu 1165	5022		
10	aag atc aag acc gaa ggg Lys Ile Lys Thr Glu Gly 1170	aac ctg gag caa gct Asn Leu Glu Gln Ala 1175	aat gaa gaa ctt Asn Glu Glu Leu 1180	5067		
15	cgg gct gtg ata aag aaa Arg Ala Val Ile Lys Lys 1185	att tgg aag aaa acc Ile Trp Lys Lys Thr 1190	agc atg aaa tta Ser Met Lys Leu 1195	5112		
20	ctt gac caa gtt gtc cct Leu Asp Gln Val Val Pro 1200	cca gct ggt gat gat Pro Ala Gly Asp Asp 1205	gag gta acc gtg Glu Val Thr Val 1210	5157		
25	ggg aag ttc tat gcc act Gly Lys Phe Tyr Ala Thr 1215	ttc ctg ata cag gac Phe Leu Ile Gln Asp 1220	tac ttt agg aaa Tyr Phe Arg Lys 1225	5202		
30	ttc aag aaa cgg aaa gaa Phe Lys Lys Arg Lys Glu 1230	caa gga ctg gtg gga Gln Gly Leu Val Gly 1235	aag tac cct gcg Lys Tyr Pro Ala 1240	5247		
35	aag aac acc aca att gcc Lys Asn Thr Thr Ile Ala 1245	cta cag gcg gga tta Leu Gln Ala Gly Leu 1250	agg aca ctg cat Arg Thr Leu His 1255	5292		
40	gac att ggg cca gaa atc Asp Ile Gly Pro Glu Ile 1260	cgg cgt gct ata tcg Arg Arg Ala Ile Ser 1265	tgt gat ttg caa Cys Asp Leu Gln 1270	5337		
45	gat gac gag cct gag gaa Asp Asp Glu Pro Glu Glu 1275	aca aaa cga gaa gaa Thr Lys Arg Glu Glu 1280	gaa gat gat gtg Glu Asp Asp Val 1285	5382		
50	ttc aaa aga aat ggt gcc Phe Lys Arg Asn Gly Ala 1290	ctg ctt gga aac cat Leu Leu Gly Asn His 1295	gtc aat cat gtt Val Asn His Val 1300	5427		
55	aat agt gat agg aga gat Asn Ser Asp Arg Arg Asp 1305	tcc ctt cag cag acc Ser Leu Gln Gln Thr 1310	aat acc acc cac Asn Thr Thr His 1315	5472		
60	cgt ccc ctg cat gtc caa Arg Pro Leu His Val Gln 1320	agg cct tca att cca Arg Pro Ser Ile Pro 1325	cct gca agt gat Pro Ala Ser Asp 1330	5517		
	act gag aaa ccg ctg ttt Thr Glu Lys Pro Leu Phe 1335	cct cca gca gga aat Pro Pro Ala Gly Asn 1340	tcg gtg tgt cat Ser Val Cys His 1345	5562		
	aac cat cat aac cat aat Asn His His Asn His Asn 1350	tcc ata gga aag caa Ser Ile Gly Lys Gln 1355	gtt ccc acc tca Val Pro Thr Ser 1360	5607		
	aca aat gcc aat ctc aat Thr Asn Ala Asn Leu Asn 1365	aat gcc aat atg tcc Asn Ala Asn Met Ser 1370	aaa gct gcc cat Lys Ala Ala His 1375	5652		
	gga aag cgg ccc agc att Gly Lys Arg Pro Ser Ile 1380	ggg aac ctt gag cat Gly Asn Leu Glu His 1385	gtg tct gaa aat Val Ser Glu Asn 1390	5697		

	1380					1385					1390						
5	ggg Gly 1395	cat His	cat His	tct Ser	tcc Ser	cac His 1400	aag Lys	cat His	gac Asp	cgg Arg	gag Glu 1405	cct Pro	cag Gln	aga Arg	agg Arg	5742	
	tcc Ser 1410	agt Ser	gtg Val	aaa Lys	aga Arg	acc Thr 1415	cgc Arg	tat Tyr	tat Tyr	gaa Glu	act Thr 1420	tac Tyr	att Ile	agg Arg	tcc Ser	5787	
10	gac Asp 1425	tca Ser	gga Gly	gat Asp	gaa Glu	cag Gln 1430	ctc Leu	cca Pro	act Thr	att Ile	tgc Cys 1435	cgg Arg	gaa Glu	gac Asp	cca Pro	5832	
	gag Glu 1440	ata Ile	cat His	ggc Gly	tat Tyr	ttc Phe 1445	agg Arg	gac Asp	ccc Pro	cac His	tgc Cys 1450	ttg Leu	ggg Gly	gag Glu	cag Gln	5877	
15	gag Glu 1455	tat Tyr	ttc Phe	agt Ser	agt Ser	gag Glu 1460	gaa Glu	tgc Cys	tac Tyr	gag Glu	gat Asp 1465	gac Asp	agc Ser	tcg Ser	ccc Pro	5922	
	acc Thr 1470	tgg Trp	agc Ser	agg Arg	caa Gln	aac Asn 1475	tat Tyr	ggc Gly	tac Tyr	tac Tyr	agc Ser 1480	aga Arg	tac Tyr	cca Pro	ggc Gly	5967	
20	aga Arg 1485	aac Asn	atc Ile	gac Asp	tct Ser	gag Glu 1490	agg Arg	ccc Pro	cga Arg	ggc Gly	tac Tyr 1495	cat His	cat His	ccc Pro	caa Gln	6012	
	gga Gly 1500	ttc Phe	ttg Leu	gag Glu	gac Asp	gat Asp 1505	gac Asp	tcg Ser	ccc Pro	gtt Val	tgc Cys 1510	tat Tyr	gat Asp	tca Ser	cgg Arg	6057	
25	aga Arg 1515	tct Ser	cca Pro	agg Arg	aga Arg	cgc Arg 1520	cta Leu	cta Leu	cct Pro	ccc Pro	acc Thr 1525	cca Pro	gca Ala	tcc Ser	cac His	6102	
	cgg Arg 1530	aga Arg	tcc Ser	tcc Ser	ttc Phe	aac Asn 1535	ttt Phe	gag Glu	tgc Cys	ctg Leu	cgc Arg 1540	cgg Arg	cag Gln	agc Ser	agc Ser	6147	
30	cag Gln 1545	gaa Glu	gag Glu	gtc Val	ccg Pro	tcg Ser 1550	tct Ser	ccc Pro	atc Ile	ttc Phe	ccc Pro 1555	cat His	cgc Arg	acg Thr	gcc Ala	6192	
	ctg Leu 1560	cct Pro	ctg Leu	cat His	cta Leu	atg Met 1565	cag Gln	caa Gln	cag Gln	atc Ile	atg Met 1570	gca Ala	gtt Val	gcc Ala	ggc Gly	6237	
35	cta Leu 1575	gat Asp	tca Ser	agt Ser	aaa Lys	gcc Ala 1580	cag Gln	aag Lys	tac Tyr	tca Ser	ccg Pro 1585	agt Ser	cac His	tcg Ser	acc Thr	6282	
	cgg Arg 1590	tcg Ser	tgg Trp	gcc Ala	acc Thr	cct Pro 1595	cca Pro	gca Ala	acc Thr	cct Pro	ccc Pro 1600	tac Tyr	cgg Arg	gac Asp	tgg Trp	6327	
40	aca Thr 1605	ccg Pro	tgc Cys	tac Tyr	acc Thr	ccc Pro 1610	ctg Leu	atc Ile	caa Gln	gtg Val	gag Glu 1615	cag Gln	tca Ser	gag Glu	gcc Ala	6372	
	ctg Leu	gac Asp	cag Gln	gtg Val	aac Asn	ggc Gly	agc Ser	ctg Leu	ccg Pro	tcc Ser	ctg Leu	cac His	cgc Arg	agc Ser	tcc Ser	6417	

	1620		1625		1630	
	tgg tac aca gac gag ccc gac atc tcc tac cgg act ttc aca cca					6462
	Trp Tyr Thr Asp Glu Pro Asp Ile Ser Tyr Arg Thr Phe Thr Pro					
5	1635		1640		1645	
	gcc agc ctg act gtc ccc agc agc ttc cgg aac aaa aac agc gac					6507
	Ala Ser Leu Thr Val Pro Ser Ser Phe Arg Asn Lys Asn Ser Asp					
10	1650		1655		1660	
	aag cag agg agt gcg gac agc ttg gtg gag gca gtc ctg ata tcc					6552
	Lys Gln Arg Ser Ala Asp Ser Leu Val Glu Ala Val Leu Ile Ser					
	1665		1670		1675	
15	gaa ggc ttg gga cgc tat gca agg gac cca aaa ttt gtg tca gca					6597
	Glu Gly Leu Gly Arg Tyr Ala Arg Asp Pro Lys Phe Val Ser Ala					
	1680		1685		1690	
	aca aaa cac gaa atc gct gat gcc tgt gac ctc acc atc gac gag					6642
20	Thr Lys His Glu Ile Ala Asp Ala Cys Asp Leu Thr Ile Asp Glu					
	1695		1700		1705	
	atg gag agt gca gcc agc acc ctg ctt aat ggg aac gtg cgt ccc					6687
	Met Glu Ser Ala Ala Ser Thr Leu Leu Asn Gly Asn Val Arg Pro					
25	1710		1715		1720	
	cga gcc aac ggg gat gtg ggc ccc ctc tca cac cgg cag gac tat					6732
	Arg Ala Asn Gly Asp Val Gly Pro Leu Ser His Arg Gln Asp Tyr					
30	1725		1730		1735	
	gag cta cag gac ttt ggt cct ggc tac agc gac gaa gag cca gac					6777
	Glu Leu Gln Asp Phe Gly Pro Gly Tyr Ser Asp Glu Glu Pro Asp					
	1740		1745		1750	
35	cct ggg agg gat gag gag gac ctg gcg gat gaa atg ata tgc atc					6822
	Pro Gly Arg Asp Glu Glu Asp Leu Ala Asp Glu Met Ile Cys Ile					
	1755		1760		1765	
40	acc acc ttg tag ccccccagcga ggggcagact ggctctggcc tcaggtgggg					6874
	Thr Thr Leu					
	1770					
	cgcaggagag ccaggggaaa agtgcctcat agttaggaaa gtttaggcac tagttgggag					6934
45	taatattcaa ttaattagac ttttgtataa gagatgtcat gcctcaagaa agccataaac					6994
	ctggttaggaa caggtcccaa gcggttgagc ctggcagagt accatgcgct cggccccagc					7054
	tgcaggaaac agcaggcccc gccctctcac agaggatggg tgaggaggcc agacctgccc					7114
50	tgccccattg tccagatggg cactgctgtg gagtctgctt ctcccatgta ccagggcacc					7174
	aggccccacc aactgaaggc atggcggcgg ggtgcagggg aaagttaaag gtgatgacga					7234
55	tcatacacacc tgtgtcgta cctcagccat cggcttagca tatcagtcac tgggcccac					7294
	atatccattt ttaaaccctt tcccccaaat acactgcgtc ctggttcctg tttagctgtt					7354
	ctgaaata					7362
60						
	<210> 16					
	<211> 1772					
	<212> PRT					

<213> Homo sapiens  
 <220>  
 <221> misc\_feature  
 5 <222> (383)..(383)  
 <223> The 'Xaa' at location 383 stands for Glu, Asp, Gly, Ala, or Val.  
 <220>  
 <221> misc\_feature  
 10 <222> (384)..(384)  
 <223> The 'Xaa' at location 384 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.  
 <220>  
 15 <221> misc\_feature  
 <222> (385)..(385)  
 <223> The 'Xaa' at location 385 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.  
 20 <220>  
 <221> misc\_feature  
 <222> (386)..(386)  
 25 <223> The 'Xaa' at location 386 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.  
 <220>  
 30 <221> misc\_feature  
 <222> (387)..(387)  
 <223> The 'Xaa' at location 387 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.  
 35 <220>  
 <221> misc\_feature  
 <222> (388)..(388)  
 <223> The 'Xaa' at location 388 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.  
 40 <220>  
 <221> misc\_feature  
 <222> (389)..(389)  
 45 <223> The 'Xaa' at location 389 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.  
 <220>  
 50 <221> misc\_feature  
 <222> (390)..(390)  
 <223> The 'Xaa' at location 390 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.  
 55 <220>  
 <221> misc\_feature  
 <222> (391)..(391)  
 60 <223> The 'Xaa' at location 391 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.  
 <220>

5       <221> misc\_feature  
           <222> (392)..(392)  
           <223> The 'Xaa' at location 392 stands for Lys, Asn, Arg, Ser, Thr,  
                   Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
                   Cys, or Phe.

10       <220>  
           <221> misc\_feature  
           <222> (393)..(393)  
           <223> The 'Xaa' at location 393 stands for Lys, Asn, Arg, Ser, Thr,  
                   Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
                   Cys, or Phe.

15       <220>  
           <221> misc\_feature  
           <222> (394)..(394)  
           <223> The 'Xaa' at location 394 stands for Lys, Asn, Arg, Ser, Thr,  
                   Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
                   Cys, or Phe.

20       <220>  
           <221> misc\_feature  
           <222> (395)..(395)  
           <223> The 'Xaa' at location 395 stands for Lys, Asn, Arg, Ser, Thr,  
 25       Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
           Cys, or Phe.

30       <220>  
           <221> misc\_feature  
           <222> (396)..(396)  
           <223> The 'Xaa' at location 396 stands for Lys, Asn, Arg, Ser, Thr,  
                   Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
                   Cys, or Phe.

35       <220>  
           <221> misc\_feature  
           <222> (397)..(397)  
           <223> The 'Xaa' at location 397 stands for Lys, Asn, Arg, Ser, Thr,  
 40       Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
           Cys, or Phe.

45       <220>  
           <221> misc\_feature  
           <222> (398)..(398)  
           <223> The 'Xaa' at location 398 stands for Lys, Asn, Arg, Ser, Thr,  
                   Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
                   Cys, or Phe.

50       <220>  
           <221> misc\_feature  
           <222> (399)..(399)  
           <223> The 'Xaa' at location 399 stands for Lys, Asn, Arg, Ser, Thr,  
                   Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
                   Cys, or Phe.

55       <220>  
           <221> misc\_feature  
           <222> (400)..(400)  
           <223> The 'Xaa' at location 400 stands for Lys, Asn, Arg, Ser, Thr,  
 60       Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
           Cys, or Phe.

<220>  
 <221> misc\_feature



<222> (401)..(401)  
 <223> The 'Xaa' at location 401 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

5

<220>  
 <221> misc\_feature  
 <222> (402)..(402)  
 <223> The 'Xaa' at location 402 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

10

<220>  
 <221> misc\_feature  
 <222> (403)..(403)  
 <223> The 'Xaa' at location 403 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

15

<220>  
 <221> misc\_feature  
 <222> (404)..(404)  
 <223> The 'Xaa' at location 404 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

20

<220>  
 <221> misc\_feature  
 <222> (405)..(405)  
 <223> The 'Xaa' at location 405 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

25

<220>  
 <221> misc\_feature  
 <222> (406)..(406)  
 <223> The 'Xaa' at location 406 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

30

<220>  
 <221> misc\_feature  
 <222> (407)..(407)  
 <223> The 'Xaa' at location 407 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

35

<220>  
 <221> misc\_feature  
 <222> (408)..(408)  
 <223> The 'Xaa' at location 408 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

40

<220>  
 <221> misc\_feature  
 <222> (409)..(409)  
 <223> The 'Xaa' at location 409 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

45

<220>  
 <221> misc\_feature  
 <222> (410)..(410)

50

<220>  
 <221> misc\_feature  
 <222> (411)..(411)

55

<220>  
 <221> misc\_feature  
 <222> (412)..(412)

60

<220>  
 <221> misc\_feature  
 <222> (413)..(413)

<223> The 'Xaa' at location 410 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

5    <220>  
      <221> misc\_feature  
      <222> (411)..(411)  
      <223> The 'Xaa' at location 411 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

10    <220>  
      <221> misc\_feature  
      <222> (412)..(412)  
      <223> The 'Xaa' at location 412 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

15    <220>  
      <221> misc\_feature  
      <222> (413)..(413)  
      <223> The 'Xaa' at location 413 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

20    <220>  
      <221> misc\_feature  
      <222> (414)..(414)  
      <223> The 'Xaa' at location 414 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

25    <220>  
      <221> misc\_feature  
      <222> (415)..(415)  
      <223> The 'Xaa' at location 415 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

30    <220>  
      <221> misc\_feature  
      <222> (416)..(416)  
      <223> The 'Xaa' at location 416 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

35    <220>  
      <221> misc\_feature  
      <222> (417)..(417)  
      <223> The 'Xaa' at location 417 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

40    <220>  
      <221> misc\_feature  
      <222> (418)..(418)  
      <223> The 'Xaa' at location 418 stands for Lys, Asn, Arg, Ser, Thr, Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

45    <220>  
      <221> misc\_feature  
      <222> (419)..(419)  
      <223> The 'Xaa' at location 419 stands for Lys, Asn, Arg, Ser, Thr,

Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp, Cys, or Phe.

- 5      <220>  
         <221> misc\_feature  
         <222> (420)..(420)  
         <223> The 'Xaa' at location 420 stands for Lys, Asn, Arg, Ser, Thr,  
                 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
                 Cys, or Phe.
- 10      <220>  
         <221> misc\_feature  
         <222> (421)..(421)  
         <223> The 'Xaa' at location 421 stands for Lys, Asn, Arg, Ser, Thr,  
15      <223> Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
                 Cys, or Phe.
- 20      <220>  
         <221> misc\_feature  
         <222> (422)..(422)  
         <223> The 'Xaa' at location 422 stands for Lys, Asn, Arg, Ser, Thr,  
                 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
                 Cys, or Phe.
- 25      <220>  
         <221> misc\_feature  
         <222> (423)..(423)  
         <223> The 'Xaa' at location 423 stands for Lys, Asn, Arg, Ser, Thr,  
                 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
30      <223> Cys, or Phe.
- 35      <220>  
         <221> misc\_feature  
         <222> (424)..(424)  
         <223> The 'Xaa' at location 424 stands for Lys, Asn, Arg, Ser, Thr,  
                 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
                 Cys, or Phe.
- 40      <220>  
         <221> misc\_feature  
         <222> (425)..(425)  
         <223> The 'Xaa' at location 425 stands for Lys, Asn, Arg, Ser, Thr,  
                 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
                 Cys, or Phe.
- 45      <220>  
         <221> misc\_feature  
         <222> (426)..(426)  
         <223> The 'Xaa' at location 426 stands for Lys, Asn, Arg, Ser, Thr,  
50      <223> Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
                 Cys, or Phe.
- 55      <220>  
         <221> misc\_feature  
         <222> (427)..(427)  
         <223> The 'Xaa' at location 427 stands for Lys, Asn, Arg, Ser, Thr,  
                 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
                 Cys, or Phe.
- 60      <220>  
         <221> misc\_feature  
         <222> (428)..(428)  
         <223> The 'Xaa' at location 428 stands for Lys, Asn, Arg, Ser, Thr,  
                 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,

Cys, or Phe.

5     <220>  
       <221> misc\_feature  
       <222> (429)..(429)  
       <223> The 'Xaa' at location 429 stands for Lys, Asn, Arg, Ser, Thr,  
               Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
               Cys, or Phe.

10    <220>  
       <221> misc\_feature  
       <222> (430)..(430)  
       <223> The 'Xaa' at location 430 stands for Lys, Asn, Arg, Ser, Thr,  
               Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
               Cys, or Phe.

15    <220>  
       <221> misc\_feature  
       <222> (431)..(431)  
       <223> The 'Xaa' at location 431 stands for Lys, Asn, Arg, Ser, Thr,  
               Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
               Cys, or Phe.

20    <220>  
       <221> misc\_feature  
       <222> (432)..(432)  
       <223> The 'Xaa' at location 432 stands for Lys, Asn, Arg, Ser, Thr,  
               Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
               Cys, or Phe.

25    <220>  
       <221> misc\_feature  
       <222> (433)..(433)  
       <223> The 'Xaa' at location 433 stands for Lys, Asn, Arg, Ser, Thr,  
               Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
               Cys, or Phe.

30    <220>  
       <221> misc\_feature  
       <222> (434)..(434)  
       <223> The 'Xaa' at location 434 stands for Lys, Asn, Arg, Ser, Thr,  
               Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
               Cys, or Phe.

35    <220>  
       <221> misc\_feature  
       <222> (435)..(435)  
       <223> The 'Xaa' at location 435 stands for Lys, Asn, Arg, Ser, Thr,  
               Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
               Cys, or Phe.

40    <220>  
       <221> misc\_feature  
       <222> (436)..(436)  
       <223> The 'Xaa' at location 436 stands for Lys, Asn, Arg, Ser, Thr,  
               Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
               Cys, or Phe.

45    <220>  
       <221> misc\_feature  
       <222> (437)..(437)  
       <223> The 'Xaa' at location 437 stands for Lys, Asn, Arg, Ser, Thr,  
               Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
               Cys, or Phe.

50    <220>  
       <221> misc\_feature  
       <222> (438)..(438)  
       <223> The 'Xaa' at location 438 stands for Lys, Asn, Arg, Ser, Thr,  
               Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
               Cys, or Phe.

55    <220>  
       <221> misc\_feature  
       <222> (439)..(439)  
       <223> The 'Xaa' at location 439 stands for Lys, Asn, Arg, Ser, Thr,  
               Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
               Cys, or Phe.

60    <220>  
       <221> misc\_feature  
       <222> (440)..(440)  
       <223> The 'Xaa' at location 440 stands for Lys, Asn, Arg, Ser, Thr,  
               Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
               Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (438)..(438)  
 5 <223> The 'Xaa' at location 438 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 10 <221> misc\_feature  
 <222> (439)..(439)  
 <223> The 'Xaa' at location 439 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

15 <220>  
 <221> misc\_feature  
 <222> (440)..(440)  
 20 <223> The 'Xaa' at location 440 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 25 <221> misc\_feature  
 <222> (441)..(441)  
 <223> The 'Xaa' at location 441 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

30 <220>  
 <221> misc\_feature  
 <222> (442)..(442)  
 <223> The 'Xaa' at location 442 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 35 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (443)..(443)  
 40 <223> The 'Xaa' at location 443 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 45 <221> misc\_feature  
 <222> (444)..(444)  
 <223> The 'Xaa' at location 444 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

50 <220>  
 <221> misc\_feature  
 <222> (445)..(445)  
 <223> The 'Xaa' at location 445 stands for Lys, Asn, Arg, Ser, Thr,  
 55 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 60 <221> misc\_feature  
 <222> (446)..(446)  
 <223> The 'Xaa' at location 446 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (447)..(447)  
 5 <223> The 'Xaa' at location 447 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (448)..(448)  
 10 <223> The 'Xaa' at location 448 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (449)..(449)  
 15 <223> The 'Xaa' at location 449 stands for Lys, Asn, Arg, Ser, Thr,  
 20 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (450)..(450)  
 25 <223> The 'Xaa' at location 450 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (451)..(451)  
 30 <223> The 'Xaa' at location 451 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 35 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (452)..(452)  
 40 <223> The 'Xaa' at location 452 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (453)..(453)  
 45 <223> The 'Xaa' at location 453 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (454)..(454)  
 50 <223> The 'Xaa' at location 454 stands for Lys, Asn, Arg, Ser, Thr,  
 55 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (455)..(455)  
 60 <223> The 'Xaa' at location 455 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (456)..(456)  
 5 <223> The 'Xaa' at location 456 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (457)..(457)  
 10 <223> The 'Xaa' at location 457 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (458)..(458)  
 15 <223> The 'Xaa' at location 458 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (459)..(459)  
 20 <223> The 'Xaa' at location 459 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (460)..(460)  
 25 <223> The 'Xaa' at location 460 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (461)..(461)  
 30 <223> The 'Xaa' at location 461 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (462)..(462)  
 35 <223> The 'Xaa' at location 462 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (463)..(463)  
 40 <223> The 'Xaa' at location 463 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (464)..(464)  
 45 <223> The 'Xaa' at location 464 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (465)..(465)  
 50 <223> The 'Xaa' at location 465 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (466)..(466)  
 55 <223> The 'Xaa' at location 466 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (467)..(467)  
 60 <223> The 'Xaa' at location 467 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (465)..(465)  
 5 <223> The 'Xaa' at location 465 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (466)..(466)  
 10 <223> The 'Xaa' at location 466 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (467)..(467)  
 15 <223> The 'Xaa' at location 467 stands for Lys, Asn, Arg, Ser, Thr,  
 20 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (468)..(468)  
 25 <223> The 'Xaa' at location 468 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (469)..(469)  
 30 <223> The 'Xaa' at location 469 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 35 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (470)..(470)  
 40 <223> The 'Xaa' at location 470 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (471)..(471)  
 45 <223> The 'Xaa' at location 471 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (472)..(472)  
 50 <223> The 'Xaa' at location 472 stands for Lys, Asn, Arg, Ser, Thr,  
 55 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (473)..(473)  
 60 <223> The 'Xaa' at location 473 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.



<220>  
 <221> misc\_feature  
 <222> (474)..(474)  
 5 <223> The 'Xaa' at location 474 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 10 <221> misc\_feature  
 <222> (475)..(475)  
 <223> The 'Xaa' at location 475 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

15  
 <220>  
 <221> misc\_feature  
 <222> (476)..(476)  
 20 <223> The 'Xaa' at location 476 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 25 <221> misc\_feature  
 <222> (477)..(477)  
 <223> The 'Xaa' at location 477 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

30 <220>  
 <221> misc\_feature  
 <222> (478)..(478)  
 <223> The 'Xaa' at location 478 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 35 Cys, or Phe.

<220>  
 <221> misc\_feature  
 <222> (479)..(479)  
 40 <223> The 'Xaa' at location 479 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 45 <221> misc\_feature  
 <222> (480)..(480)  
 <223> The 'Xaa' at location 480 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

50  
 <220>  
 <221> misc\_feature  
 <222> (481)..(481)  
 <223> The 'Xaa' at location 481 stands for Lys, Asn, Arg, Ser, Thr,  
 55 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<220>  
 60 <221> misc\_feature  
 <222> (482)..(482)  
 <223> The 'Xaa' at location 482 stands for Lys, Asn, Arg, Ser, Thr,  
 Ile, Met, Glu, Asp, Gly, Ala, Val, Gln, His, Pro, Leu, Tyr, Trp,  
 Cys, or Phe.

<400> 16

	Met	Pro	Thr	Ser	Glu	Thr	Glu	Ser	Val	Asn	Thr	Glu	Asn	Val	Ser	Gly
	1				5					10					15	
5		Glu	Gly	Glu	Asn	Arg	Gly	Cys	Cys	Gly	Ser	Leu	Trp	Cys	Trp	Arg
				20					25					30		
	Arg	Arg	Gly	Ala	Ala	Lys	Ala	Gly	Pro	Ser	Gly	Cys	Arg	Arg	Trp	Gly
10			35					40					45			
	Gln	Ala	Ile	Ser	Lys	Ser	Lys	Leu	Ser	Arg	Arg	Trp	Arg	Arg	Trp	Asn
		50					55					60				
15	Arg	Phe	Asn	Arg	Arg	Arg	Cys	Arg	Ala	Ala	Val	Lys	Ser	Val	Thr	Phe
	65					70					75					80
	Tyr	Trp	Leu	Val	Ile	Val	Leu	Val	Phe	Leu	Asn	Thr	Leu	Thr	Ile	Ser
				85						90					95	
20		Ser	Glu	His	Tyr	Asn	Gln	Pro	Asp	Trp	Leu	Thr	Gln	Ile	Gln	Asp
				100						105					110	Met
	Pro	Asn	Lys	Val	Leu	Leu	Ala	Leu	Phe	Thr	Cys	Glu	Met	Leu	Val	Lys
25			115					120					125			
	Met	Tyr	Ser	Leu	Gly	Leu	Gln	Ala	Tyr	Phe	Val	Ser	Leu	Phe	Asn	Arg
		130					135					140				
30	Phe	Asp	Cys	Phe	Val	Val	Cys	Gly	Gly	Ile	Thr	Glu	Thr	Ile	Leu	Val
	145					150					155				160	
	Glu	Leu	Glu	Ile	Met	Ser	Pro	Leu	Gly	Ile	Ser	Val	Phe	Arg	Cys	Val
				165						170					175	
35		Arg	Leu	Leu	Arg	Ile	Phe	Lys	Val	Thr	Arg	His	Trp	Thr	Ser	Leu
				180						185					190	Ser
	Asn	Leu	Val	Ala	Ser	Leu	Leu	Asn	Ser	Met	Lys	Ser	Ile	Ala	Ser	Leu
40			195					200					205			
	Leu	Leu	Leu	Leu	Phe	Leu	Phe	Ile	Ile	Ile	Phe	Ser	Leu	Leu	Gly	Met
		210					215					220				
45	Gln	Leu	Phe	Gly	Gly	Lys	Phe	Asn	Phe	Asp	Glu	Thr	Gln	Thr	Lys	Arg
	225					230					235					240
	Ser	Thr	Phe	Asp	Asn	Phe	Pro	Gln	Ala	Leu	Leu	Thr	Val	Phe	Gln	Ile
				245						250					255	
50		Leu	Thr	Gly	Glu	Asp	Trp	Asn	Ala	Val	Met	Tyr	Asp	Gly	Ile	Met
				260						265					270	Ala
	Tyr	Gly	Gly	Pro	Ser	Ser	Ser	Gly	Met	Ile	Val	Cys	Ile	Tyr	Phe	Ile
55			275					280					285			
	Ile	Leu	Phe	Ile	Cys	Gly	Asn	Tyr	Ile	Leu	Leu	Asn	Val	Phe	Leu	Ala
		290					295					300				
60	Ile	Ala	Val	Asp	Asn	Leu	Ala	Asp	Ala	Glu	Ser	Leu	Asn	Thr	Ala	Gln
	305					310					315					320
	Lys	Glu	Glu	Ala	Glu	Glu	Lys	Glu	Arg	Lys	Lys	Ile	Ala	Arg	Lys	Glu
				325						330					335	

	Ser	Leu	Glu	Asn	Lys	Lys	Asn	Asn	Lys	Pro	Glu	Val	Asn	Gln	Ile	Ala	
				340					345					350			
5	Asn	Ser	Asp	Asn	Lys	Val	Thr	Ile	Asp	Asp	Tyr	Arg	Glu	Glu	Asp	Glu	
			355					360					365				
	Asp	Lys	Asp	Pro	Tyr	Pro	Pro	Cys	Asp	Val	Pro	Gly	Met	Val	Xaa	Xaa	
10			370				375					380					
	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	
	385					390					395					400	
	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	
15					405					410					415		
	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	
				420				425						430			
20	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	
			435					440						445			
	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	
25			450				455					460					
	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	
	465					470					475					480	
	Xaa	Xaa	Pro	Cys	Arg	Ile	Arg	Val	Gly	Cys	His	Lys	Leu	Ile	Asn	His	
30					485					490					495		
	His	Ile	Phe	Thr	Asn	Leu	Ile	Leu	Val	Phe	Ile	Met	Leu	Ser	Ser	Ala	
				500					505					510			
35	Ala	Leu	Ala	Ala	Glu	Asp	Pro	Ile	Arg	Ser	His	Ser	Phe	Arg	Asn	Thr	
			515					520					525				
	Ile	Leu	Gly	Tyr	Phe	Asp	Tyr	Ala	Phe	Thr	Ala	Ile	Phe	Thr	Val	Glu	
40			530				535					540					
	Ile	Leu	Leu	Lys	Met	Thr	Thr	Phe	Gly	Ala	Phe	Leu	His	Lys	Gly	Ala	
	545					550					555					560	
	Phe	Cys	Arg	Asn	Tyr	Phe	Asn	Leu	Leu	Asp	Met	Leu	Val	Val	Gly	Val	
45					565					570					575		
	Ser	Leu	Val	Ser	Phe	Gly	Ile	Gln	Ser	Ser	Ala	Ile	Ser	Val	Val	Lys	
				580				585						590			
50	Ile	Leu	Arg	Val	Leu	Arg	Val	Leu	Arg	Pro	Leu	Arg	Ala	Ile	Asn	Arg	
			595				600						605				
	Ala	Lys	Gly	Leu	Lys	His	Val	Val	Gln	Cys	Val	Phe	Val	Ala	Ile	Arg	
55			610				615					620					
	Thr	Ile	Gly	Asn	Ile	Met	Ile	Val	Thr	Thr	Leu	Leu	Gln	Phe	Met	Phe	
	625					630					635					640	
	Ala	Cys	Ile	Gly	Val	Gln	Leu	Phe	Lys	Gly	Lys	Phe	Tyr	Arg	Cys	Thr	
60					645					650					655		
	Asp	Glu	Ala	Lys	Ser	Asn	Pro	Glu	Glu	Cys	Arg	Gly	Leu	Phe	Ile	Leu	
				660					665					670			

	Tyr	Lys	Asp	Gly	Asp	Val	Asp	Ser	Pro	Val	Val	Arg	Glu	Arg	Ile	Trp	
			675					680					685				
5	Gln	Asn	Ser	Asp	Phe	Asn	Phe	Asp	Asn	Val	Leu	Ser	Ala	Met	Met	Ala	
			690					695					700				
	Leu	Phe	Thr	Val	Ser	Thr	Phe	Glu	Gly	Trp	Pro	Ala	Leu	Leu	Tyr	Lys	
	705					710					715					720	
10	Ala	Ile	Asp	Ser	Asn	Gly	Glu	Asn	Ile	Gly	Pro	Ile	Tyr	Asn	His	Arg	
					725					730					735		
	Val	Glu	Ile	Ser	Ile	Phe	Phe	Ile	Ile	Tyr	Ile	Ile	Ile	Val	Ala	Phe	
15				740					745					750			
	Phe	Met	Met	Asn	Ile	Phe	Val	Gly	Phe	Val	Ile	Val	Thr	Phe	Gln	Glu	
			755					760					765				
20	Gln	Gly	Glu	Lys	Glu	Tyr	Lys	Asn	Cys	Glu	Leu	Asp	Lys	Asn	Gln	Arg	
		770					775					780					
	Gln	Cys	Val	Glu	Tyr	Ala	Leu	Lys	Ala	Arg	Pro	Leu	Arg	Arg	Tyr	Ile	
25						790					795					800	
	Pro	Lys	Asn	Pro	Tyr	Gln	Tyr	Lys	Phe	Trp	Tyr	Val	Val	Asn	Ser	Ser	
					805					810					815		
30	Pro	Phe	Glu	Tyr	Met	Met	Phe	Val	Leu	Ile	Met	Leu	Asn	Thr	Leu	Cys	
				820					825					830			
	Leu	Ala	Met	Gln	His	Tyr	Glu	Gln	Ser	Lys	Met	Phe	Asn	Asp	Ala	Met	
			835					840					845				
35	Asp	Ile	Leu	Asn	Met	Val	Phe	Thr	Gly	Val	Phe	Thr	Val	Glu	Met	Val	
		850					855					860					
	Leu	Lys	Val	Ile	Ala	Phe	Lys	Pro	Lys	Gly	Tyr	Phe	Ser	Asp	Ala	Trp	
40					870						875					880	
	Asn	Thr	Phe	Asp	Ser	Leu	Ile	Val	Ile	Gly	Ser	Ile	Ile	Asp	Val	Ala	
				885						890					895		
45	Leu	Ser	Glu	Ala	Lys	Pro	Thr	Glu	Ser	Glu	Asn	Val	Pro	Val	Pro	Thr	
				900					905					910			
	Ala	Thr	Pro	Gly	Asn	Ser	Glu	Glu	Ser	Asn	Arg	Ile	Ser	Ile	Thr	Phe	
			915					920					925				
50	Phe	Arg	Leu	Phe	Arg	Val	Met	Arg	Leu	Val	Lys	Leu	Leu	Ser	Arg	Gly	
		930					935					940					
	Glu	Gly	Ile	Arg	Thr	Leu	Leu	Trp	Thr	Phe	Ile	Lys	Ser	Phe	Gln	Ala	
55						950					955					960	
	Leu	Pro	Tyr	Val	Ala	Leu	Leu	Ile	Ala	Met	Leu	Phe	Phe	Ile	Tyr	Ala	
					965					970					975		
60	Val	Ile	Gly	Met	Gln	Met	Phe	Gly	Lys	Val	Ala	Met	Arg	Asp	Asn	Asn	
				980					985					990			
	Gln	Ile	Asn	Arg	Asn	Asn	Asn	Phe	Gln	Thr	Phe	Pro	Gln	Ala	Val	Leu	
			995					1000					1005				

	Leu	Leu	Phe	Arg	Cys	Ala	Thr	Gly	Glu	Ala	Trp	Gln	Glu	Ile	Met
	1010						1015					1020			
5	Leu	Ala	Cys	Leu	Pro	Gly	Lys	Leu	Cys	Asp	Pro	Glu	Ser	Asp	Tyr
	1025						1030					1035			
	Asn	Pro	Gly	Glu	Glu	Tyr	Thr	Cys	Gly	Ser	Asn	Phe	Ala	Ile	Val
	1040						1045					1050			
10	Tyr	Phe	Ile	Ser	Phe	Tyr	Met	Leu	Cys	Ala	Phe	Leu	Ile	Ile	Asn
	1055						1060					1065			
	Leu	Phe	Val	Ala	Val	Ile	Met	Asp	Asn	Phe	Asp	Tyr	Leu	Thr	Arg
15	1070						1075					1080			
	Asp	Trp	Ser	Ile	Leu	Gly	Pro	His	His	Leu	Asp	Glu	Phe	Lys	Arg
	1085						1090					1095			
20	Ile	Trp	Ser	Glu	Tyr	Asp	Pro	Glu	Ala	Lys	Gly	Arg	Ile	Lys	His
	1100						1105					1110			
	Leu	Asp	Val	Val	Thr	Leu	Leu	Arg	Arg	Ile	Gln	Pro	Pro	Leu	Gly
25	1115						1120					1125			
	Phe	Gly	Lys	Leu	Cys	Pro	His	Arg	Val	Ala	Cys	Lys	Arg	Leu	Val
	1130						1135					1140			
30	Ala	Met	Asn	Met	Pro	Leu	Asn	Ser	Asp	Gly	Thr	Val	Met	Phe	Asn
	1145						1150					1155			
	Ala	Thr	Leu	Phe	Ala	Leu	Val	Arg	Thr	Ala	Leu	Lys	Ile	Lys	Thr
	1160						1165					1170			
35	Glu	Gly	Asn	Leu	Glu	Gln	Ala	Asn	Glu	Glu	Leu	Arg	Ala	Val	Ile
	1175						1180					1185			
	Lys	Lys	Ile	Trp	Lys	Lys	Thr	Ser	Met	Lys	Leu	Leu	Asp	Gln	Val
40	1190						1195					1200			
	Val	Pro	Pro	Ala	Gly	Asp	Asp	Glu	Val	Thr	Val	Gly	Lys	Phe	Tyr
	1205						1210					1215			
45	Ala	Thr	Phe	Leu	Ile	Gln	Asp	Tyr	Phe	Arg	Lys	Phe	Lys	Lys	Arg
	1220						1225					1230			
	Lys	Glu	Gln	Gly	Leu	Val	Gly	Lys	Tyr	Pro	Ala	Lys	Asn	Thr	Thr
	1235						1240					1245			
50	Ile	Ala	Leu	Gln	Ala	Gly	Leu	Arg	Thr	Leu	His	Asp	Ile	Gly	Pro
	1250						1255					1260			
	Glu	Ile	Arg	Arg	Ala	Ile	Ser	Cys	Asp	Leu	Gln	Asp	Asp	Glu	Pro
55	1265						1270					1275			
	Glu	Glu	Thr	Lys	Arg	Glu	Glu	Glu	Asp	Asp	Val	Phe	Lys	Arg	Asn
	1280						1285					1290			
60	Gly	Ala	Leu	Leu	Gly	Asn	His	Val	Asn	His	Val	Asn	Ser	Asp	Arg
	1295						1300					1305			
	Arg	Asp	Ser	Leu	Gln	Gln	Thr	Asn	Thr	Thr	His	Arg	Pro	Leu	His
	1310						1315					1320			

	Val	Gln	Arg	Pro	Ser	Ile	Pro	Pro	Ala	Ser	Asp	Thr	Glu	Lys	Pro
	1325						1330					1335			
5	Leu	Phe	Pro	Pro	Ala	Gly	Asn	Ser	Val	Cys	His	Asn	His	His	Asn
	1340						1345					1350			
	His	Asn	Ser	Ile	Gly	Lys	Gln	Val	Pro	Thr	Ser	Thr	Asn	Ala	Asn
	1355						1360					1365			
10	Leu	Asn	Asn	Ala	Asn	Met	Ser	Lys	Ala	Ala	His	Gly	Lys	Arg	Pro
	1370						1375					1380			
	Ser	Ile	Gly	Asn	Leu	Glu	His	Val	Ser	Glu	Asn	Gly	His	His	Ser
15	1385						1390					1395			
	Ser	His	Lys	His	Asp	Arg	Glu	Pro	Gln	Arg	Arg	Ser	Ser	Val	Lys
	1400						1405					1410			
20	Arg	Thr	Arg	Tyr	Tyr	Glu	Thr	Tyr	Ile	Arg	Ser	Asp	Ser	Gly	Asp
	1415						1420					1425			
	Glu	Gln	Leu	Pro	Thr	Ile	Cys	Arg	Glu	Asp	Pro	Glu	Ile	His	Gly
25	1430						1435					1440			
	Tyr	Phe	Arg	Asp	Pro	His	Cys	Leu	Gly	Glu	Gln	Glu	Tyr	Phe	Ser
	1445						1450					1455			
30	Ser	Glu	Glu	Cys	Tyr	Glu	Asp	Asp	Ser	Ser	Pro	Thr	Trp	Ser	Arg
	1460						1465					1470			
	Gln	Asn	Tyr	Gly	Tyr	Tyr	Ser	Arg	Tyr	Pro	Gly	Arg	Asn	Ile	Asp
	1475						1480					1485			
35	Ser	Glu	Arg	Pro	Arg	Gly	Tyr	His	His	Pro	Gln	Gly	Phe	Leu	Glu
	1490						1495					1500			
	Asp	Asp	Asp	Ser	Pro	Val	Cys	Tyr	Asp	Ser	Arg	Arg	Ser	Pro	Arg
40	1505						1510					1515			
	Arg	Arg	Leu	Leu	Pro	Pro	Thr	Pro	Ala	Ser	His	Arg	Arg	Ser	Ser
	1520						1525					1530			
45	Phe	Asn	Phe	Glu	Cys	Leu	Arg	Arg	Gln	Ser	Ser	Gln	Glu	Glu	Val
	1535						1540					1545			
	Pro	Ser	Ser	Pro	Ile	Phe	Pro	His	Arg	Thr	Ala	Leu	Pro	Leu	His
	1550						1555					1560			
50	Leu	Met	Gln	Gln	Gln	Ile	Met	Ala	Val	Ala	Gly	Leu	Asp	Ser	Ser
	1565						1570					1575			
	Lys	Ala	Gln	Lys	Tyr	Ser	Pro	Ser	His	Ser	Thr	Arg	Ser	Trp	Ala
55	1580						1585					1590			
	Thr	Pro	Pro	Ala	Thr	Pro	Pro	Tyr	Arg	Asp	Trp	Thr	Pro	Cys	Tyr
	1595						1600					1605			
60	Thr	Pro	Leu	Ile	Gln	Val	Glu	Gln	Ser	Glu	Ala	Leu	Asp	Gln	Val
	1610						1615					1620			
	Asn	Gly	Ser	Leu	Pro	Ser	Leu	His	Arg	Ser	Ser	Trp	Tyr	Thr	Asp
	1625						1630					1635			

	Glu Pro Asp Ile Ser Tyr Arg Thr Phe Thr Pro Ala Ser Leu Thr	
	1640 1645 1650	
5	Val Pro Ser Ser Phe Arg Asn Lys Asn Ser Asp Lys Gln Arg Ser	
	1655 1660 1665	
	Ala Asp Ser Leu Val Glu Ala Val Leu Ile Ser Glu Gly Leu Gly	
	1670 1675 1680	
10	Arg Tyr Ala Arg Asp Pro Lys Phe Val Ser Ala Thr Lys His Glu	
	1685 1690 1695	
	Ile Ala Asp Ala Cys Asp Leu Thr Ile Asp Glu Met Glu Ser Ala	
15	1700 1705 1710	
	Ala Ser Thr Leu Leu Asn Gly Asn Val Arg Pro Arg Ala Asn Gly	
	1715 1720 1725	
20	Asp Val Gly Pro Leu Ser His Arg Gln Asp Tyr Glu Leu Gln Asp	
	1730 1735 1740	
	Phe Gly Pro Gly Tyr Ser Asp Glu Glu Pro Asp Pro Gly Arg Asp	
25	1745 1750 1755	
	Glu Glu Asp Leu Ala Asp Glu Met Ile Cys Ile Thr Thr Leu	
	1760 1765 1770	
30		
	<210> 17	
	<211> 7193	
	<212> DNA	
35	<213> Homo sapiens	
	<220>	
	<221> gene	
40	<222> (1)..(7193)	
	<220>	
	<221> CDS	
	<222> (119)..(6664)	
45		
	<400> 17	
	agaataaggg cagggaccgc ggctcctatc tcttggtgat ccccttcccc attccgcccc	60
	cgcctcaacg cccagcacag tgccctgcac acagtagtcg ctcaataaat gttcgtgg	118
50	atg atg atg atg atg atg atg aaa aaa atg cag cat caa cgg cag cag	166
	Met Met Met Met Met Met Met Lys Lys Met Gln His Gln Arg Gln Gln	
	1 5 10 15	
55	caa gcg gac cac gcg aac gag gca aac tat gca aga ggc acc aga ctt	214
	Gln Ala Asp His Ala Asn Glu Ala Asn Tyr Ala Arg Gly Thr Arg Leu	
	20 25 30	
	cct ctt tct ggt gaa gga cca act tct cag ccg aat agc tcc aag caa	262
60	Pro Leu Ser Gly Glu Gly Pro Thr Ser Gln Pro Asn Ser Ser Lys Gln	
	35 40 45	
	act gtc ctg tct tgg caa gct gca atc gat gct gct aga cag gcc aag	310
	Thr Val Leu Ser Trp Gln Ala Ala Ile Asp Ala Ala Arg Gln Ala Lys	

	50		55		60		
	gct gcc caa act atg agc acc tct gca ccc cca cct gta gga tct ctc	358					
	Ala Ala Gln Thr Met Ser Thr Ser Ala Pro Pro Pro Val Gly Ser Leu						
	65 70 75 80						
5	tcc caa aga aaa cgt cag caa tac gcc aag agc aaa aaa cag ggt aac	406					
	Ser Gln Arg Lys Arg Gln Gln Tyr Ala Lys Ser Lys Lys Gln Gly Asn						
	85 90 95						
10	tcg tcc aac agc cga cct gcc cgc gcc ctt ttc tgt tta tca ctc aat	454					
	Ser Ser Asn Ser Arg Pro Ala Arg Ala Leu Phe Cys Leu Ser Leu Asn						
	100 105 110						
15	aac ccc atc cga aga gcc tgc att agt ata gtg gaa tgg aaa cca ttt	502					
	Asn Pro Ile Arg Arg Ala Cys Ile Ser Ile Val Glu Trp Lys Pro Phe						
	115 120 125						
20	gac ata ttt ata tta ttg gct att ttt gcc aat tgt gtg gcc tta gct	550					
	Asp Ile Phe Ile Leu Leu Ala Ile Phe Ala Asn Cys Val Ala Leu Ala						
	130 135 140						
25	att tac atc cca ttc cct gaa gat gat tct aat tca aca aat cat aac	598					
	Ile Tyr Ile Pro Phe Pro Glu Asp Asp Ser Asn Ser Thr Asn His Asn						
	145 150 155 160						
30	ttg gaa aaa gta gaa tat gcc ttc ctg att att ttt aca gtc gag aca	646					
	Leu Glu Lys Val Glu Tyr Ala Phe Leu Ile Ile Phe Thr Val Glu Thr						
	165 170 175						
35	ttt ttg aag att ata gcg tat gga tta ttg cta cat cct aat gct tat	694					
	Phe Leu Lys Ile Ile Ala Tyr Gly Leu Leu Leu His Pro Asn Ala Tyr						
	180 185 190						
40	gtt agg aat gga tgg aat tta ctg gat ttt gtt ata gta ata gta gga	742					
	Val Arg Asn Gly Trp Asn Leu Leu Asp Phe Val Ile Val Ile Val Gly						
	195 200 205						
45	ttg ttt agt gta att ttg gaa caa tta acc aaa gaa aca gaa ggc ggg	790					
	Leu Phe Ser Val Ile Leu Glu Gln Leu Thr Lys Glu Thr Glu Gly Gly						
	210 215 220						
50	aac cac tca agc ggc aaa tct gga ggc ttt gat gtc aaa gcc ctc cgt	838					
	Asn His Ser Ser Gly Lys Ser Gly Gly Phe Asp Val Lys Ala Leu Arg						
	225 230 235 240						
55	gcc ttt cga gtg ttg cga cca ctt cga cta gtg tca ggg gtg ccc agt	886					
	Ala Phe Arg Val Leu Arg Pro Leu Arg Leu Val Ser Gly Val Pro Ser						
	245 250 255						
60	tta caa gtt gtc ctg aac tcc att ata aaa gcc atg gtt ccc ctc ctt	934					
	Leu Gln Val Val Leu Asn Ser Ile Ile Lys Ala Met Val Pro Leu Leu						
	260 265 270						
65	cac ata gcc ctt ttg gta tta ttt gta atc ata atc tat gct att ata	982					
	His Ile Ala Leu Leu Val Leu Phe Val Ile Ile Ile Tyr Ala Ile Ile						
	275 280 285						
70	gga ttg gaa ctt ttt att gga aaa atg cac aaa aca tgt ttt ttt gct	1030					
	Gly Leu Glu Leu Phe Ile Gly Lys Met His Lys Thr Cys Phe Phe Ala						
	290 295 300						
75	gac tca gat atc gta gct gaa gag gac cca gct cca tgt gcg ttc tca	1078					
	Asp Ser Asp Ile Val Ala Glu Glu Asp Pro Ala Pro Cys Ala Phe Ser						



	305			310				315				320					
5	ggg	aat	gga	cgc	cag	tgt	act	gcc	aat	ggc	acg	gaa	tgt	agg	agt	ggc	1126
	Gly	Asn	Gly	Arg	Gln	Cys	Thr	Ala	Asn	Gly	Thr	Glu	Cys	Arg	Ser	Gly	
				325						330					335		
10	tgg	gtt	ggc	ccg	aac	gga	ggc	atc	acc	aac	ttt	gat	aac	ttt	gcc	ttt	1174
	Trp	Val	Gly	Pro	Asn	Gly	Gly	Ile	Thr	Asn	Phe	Asp	Asn	Phe	Ala	Phe	
				340					345					350			
15	gcc	atg	ctt	act	gtg	ttt	cag	tgc	atc	acc	atg	gag	ggc	tgg	aca	gac	1222
	Ala	Met	Leu	Thr	Val	Phe	Gln	Cys	Ile	Thr	Met	Glu	Gly	Trp	Thr	Asp	
				355				360					365				
20	gtg	ctc	tac	tgg	gta	aat	gat	gcg	ata	gga	tgg	gaa	tgg	cca	tgg	gtg	1270
	Val	Leu	Tyr	Trp	Val	Asn	Asp	Ala	Ile	Gly	Trp	Glu	Trp	Pro	Trp	Val	
		370					375					380					
25	tat	ttt	gtt	agt	ctg	atc	atc	ctt	ggc	tca	ttt	ttc	gtc	ctt	aac	ctg	1318
	Tyr	Phe	Val	Ser	Leu	Ile	Ile	Leu	Gly	Ser	Phe	Phe	Val	Leu	Asn	Leu	
	385					390					395					400	
30	gtt	ctt	ggt	gtc	ctt	agt	gga	gaa	ttc	tca	aag	gaa	aga	gag	aag	gca	1366
	Val	Leu	Gly	Val	Leu	Ser	Gly	Glu	Phe	Ser	Lys	Glu	Arg	Glu	Lys	Ala	
				405					410					415			
35	aaa	gca	cgg	gga	gat	ttc	cag	aag	ctc	cgg	gag	aag	cag	cag	ctg	gag	1414
	Lys	Ala	Arg	Gly	Asp	Phe	Gln	Lys	Leu	Arg	Glu	Lys	Gln	Gln	Leu	Glu	
				420					425				430				
40	gag	gat	cta	aag	ggc	tac	ttg	gat	tgg	atc	acc	caa	gct	gag	gac	atc	1462
	Glu	Asp	Leu	Lys	Gly	Tyr	Leu	Asp	Trp	Ile	Thr	Gln	Ala	Glu	Asp	Ile	
				435				440				445					
45	gat	ccg	gag	aat	gag	gaa	gaa	gga	gga	gag	gaa	ggc	aaa	cga	aat	act	1510
	Asp	Pro	Glu	Asn	Glu	Glu	Glu	Gly	Gly	Glu	Glu	Gly	Lys	Arg	Asn	Thr	
		450					455					460					
50	agc	atg	ccc	acc	agc	gag	act	gag	tct	gtg	aac	aca	gag	aac	gtc	agc	1558
	Ser	Met	Pro	Thr	Ser	Glu	Thr	Glu	Ser	Val	Asn	Thr	Glu	Asn	Val	Ser	
	465					470					475					480	
55	ggt	gaa	ggc	gag	aac	cga	ggc	tgc	tgt	gga	agt	ctc	tgg	tgc	tgg	tgg	1606
	Gly	Glu	Gly	Glu	Asn	Arg	Gly	Cys	Cys	Gly	Ser	Leu	Trp	Cys	Trp	Trp	
				485					490				495				
60	aga	cgg	aga	ggc	gcg	gcc	aag	gcg	ggg	ccc	tct	ggg	tgt	cgg	cgg	tgg	1654
	Arg	Arg	Arg	Gly	Ala	Ala	Lys	Ala	Gly	Pro	Ser	Gly	Cys	Arg	Arg	Trp	
				500					505				510				
65	ggt	caa	gcc	atc	tca	aaa	tcc	aaa	ctc	agc	cga	cgc	tgg	cgt	cgc	tgg	1702
	Gly	Gln	Ala	Ile	Ser	Lys	Ser	Lys	Leu	Ser	Arg	Arg	Trp	Arg	Arg	Trp	
				515				520					525				
70	aac	cga	ttc	aat	cgc	aga	aga	tgt	agg	gcc	gcc	gtg	aag	tct	gtc	acg	1750
	Asn	Arg	Phe	Asn	Arg	Arg	Arg	Cys	Arg	Ala	Ala	Val	Lys	Ser	Val	Thr	
		530					535					540					
75	ttt	tac	tgg	ctg	gtt	atc	gtc	ctg	gtg	ttt	ctg	aac	acc	tta	acc	att	1798
	Phe	Tyr	Trp	Leu	Val	Ile	Val	Leu	Val	Phe	Leu	Asn	Thr	Leu	Thr	Ile	
	545					550					555					560	
80	tcc	tct	gag	cac	tac	aat	cag	cca	gat	tgg	ttg	aca	cag	att	caa	gat	1846
	Ser	Ser	Glu	His	Tyr	Asn	Gln	Pro	Asp	Trp	Leu	Thr	Gln	Ile	Gln	Asp	

	565										570										575										
5	att	gcc	aac	aaa	gtc	ctc	ttg	gct	ctg	ttc	acc	tgc	gag	atg	ctg	gta	1894														
	Ile	Ala	Asn	Lys	Val	Leu	Leu	Ala	Leu	Phe	Thr	Cys	Glu	Met	Leu	Val															
				580					585					590																	
10	aaa	atg	tac	agc	ttg	ggc	ctc	caa	gca	tat	ttc	gtc	tct	ctt	ttc	aac	1942														
	Lys	Met	Tyr	Ser	Leu	Gly	Leu	Gln	Ala	Tyr	Phe	Val	Ser	Leu	Phe	Asn															
				595				600					605																		
15	cgg	ttt	gat	tgc	ttc	gtg	gtg	tgt	ggg	gga	atc	act	gag	acg	atc	ctg	1990														
	Arg	Phe	Asp	Cys	Phe	Val	Val	Cys	Gly	Gly	Ile	Thr	Glu	Thr	Ile	Leu															
				610			615					620																			
20	gtg	gaa	ctg	gaa	atc	atg	tct	ccc	ctg	ggg	atc	tct	gtg	ttt	cgg	tgt	2038														
	Val	Glu	Leu	Glu	Ile	Met	Ser	Pro	Leu	Gly	Ile	Ser	Val	Phe	Arg	Cys															
						630					635					640															
25	gtg	cgc	ctc	tta	aga	atc	ttc	aaa	gtg	acc	agg	cac	tgg	act	tcc	ctg	2086														
	Val	Arg	Leu	Leu	Arg	Ile	Phe	Lys	Val	Thr	Arg	His	Trp	Thr	Ser	Leu															
					645					650					655																
30	agc	aac	tta	gtg	gca	tcc	tta	tta	aac	tcc	atg	aag	tcc	atc	gct	tcg	2134														
	Ser	Asn	Leu	Val	Ala	Ser	Leu	Leu	Asn	Ser	Met	Lys	Ser	Ile	Ala	Ser															
					660				665					670																	
35	ctg	ttg	ctt	ctg	ctt	ttt	ctc	ttc	att	atc	atc	ttt	tcc	ttg	ctt	ggg	2182														
	Leu	Leu	Leu	Leu	Leu	Phe	Leu	Phe	Ile	Ile	Ile	Phe	Ser	Leu	Leu	Gly															
					675			680					685																		
40	atg	cag	ctg	ttt	ggc	ggc	aag	ttt	aat	ttt	gat	gaa	acg	caa	acc	aag	2230														
	Met	Gln	Leu	Phe	Gly	Gly	Lys	Phe	Asn	Phe	Asp	Glu	Thr	Gln	Thr	Lys															
							695					700																			
45	cgg	agc	acc	ttt	gac	aat	ttc	cct	caa	gca	ctt	ctc	aca	gtg	ttc	cag	2278														
	Arg	Ser	Thr	Phe	Asp	Asn	Phe	Pro	Gln	Ala	Leu	Leu	Thr	Val	Phe	Gln															
						710					715					720															
50	atc	ctg	aca	ggc	gaa	gac	tgg	aat	gct	gtg	atg	tac	gat	ggc	atc	atg	2326														
	Ile	Leu	Thr	Gly	Glu	Asp	Trp	Asn	Ala	Val	Met	Tyr	Asp	Gly	Ile	Met															
					725					730					735																
55	gct	tac	ggg	ggc	cca	tcc	tct	tca	gga	atg	atc	gtc	tgc	atc	tac	ttc	2374														
	Ala	Tyr	Gly	Gly	Pro	Ser	Ser	Ser	Gly	Met	Ile	Val	Cys	Ile	Tyr	Phe															
					740				745					750																	
60	atc	atc	ctc	ttc	att	tgt	ggg	aac	tat	att	cta	ctg	aat	gtc	ttc	ttg	2422														
	Ile	Ile	Leu	Phe	Ile	Cys	Gly	Asn	Tyr	Ile	Leu	Leu	Asn	Val	Phe	Leu															
					755			760					765																		
65	gcc	atc	gct	gta	gac	aat	ttg	gct	gat	gct	gaa	agt	ctg	aac	act	gct	2470														
	Ala	Ile	Ala	Val	Asp	Asn	Leu	Ala	Asp	Ala	Glu	Ser	Leu	Asn	Thr	Ala															
							775					780																			
70	cag	aaa	gaa	gaa	gcg	gaa	gaa	aag	gag	agg	aaa	aag	att	gcc	aga	aaa	2518														
	Gln	Lys	Glu	Glu	Ala	Glu	Glu	Lys	Glu	Arg	Lys	Lys	Ile	Ala	Arg	Lys															
						790					795					800															
75	gag	agc	cta	gaa	aat	aaa	aag	aac	aac	aaa	cca	gaa	gtc	aac	cag	ata	2566														
	Glu	Ser	Leu	Glu	Asn	Lys	Lys	Asn	Asn	Lys	Pro	Glu	Val	Asn	Gln	Ile															
					805					810					815																
80	gcc	aac	agt	gac	aac	aag	gtt	aca	att	gat	gac	tat	aga	gaa	gag	gat	2614														
	Ala	Asn	Ser	Asp	Asn	Lys	Val	Thr	Ile	Asp	Asp	Tyr	Arg	Glu	Glu	Asp															

	820	825	830	
5	gaa gac aag gac ccc tat ccg cct tgc gat gtg cca gta ggg gaa gag Glu Asp Lys Asp Pro Tyr Pro Pro Cys Asp Val Pro Val Gly Glu Glu 835 840 845			2662
10	gaa gag gaa gag gag gag gat gaa cct gag gtt cct gcc gga ccc cgt Glu Glu Glu Glu Glu Glu Asp Glu Pro Glu Val Pro Ala Gly Pro Arg 850 855 860			2710
15	cct cga agg atc tcg gag ttg aac atg aag gaa aaa att gcc ccc atc Pro Arg Arg Ile Ser Glu Leu Asn Met Lys Glu Lys Ile Ala Pro Ile 865 870 875 880			2758
20	cct gaa ggg agc gct ttc ttc att ctt agc aag acc aac ccg atc cgc Pro Glu Gly Ser Ala Phe Phe Ile Leu Ser Lys Thr Asn Pro Ile Arg 885 890 895			2806
25	gta ggc tgc cac aag ctc atc aac cac cac atc ttc acc aac ctc atc Val Gly Cys His Lys Leu Ile Asn His His Ile Phe Thr Asn Leu Ile 900 905 910			2854
30	ctt gtc ttc atc atg ctg agc agc gct gcc ctg gcc gca gag gac ccc Leu Val Phe Ile Met Leu Ser Ser Ala Ala Leu Ala Ala Glu Asp Pro 915 920 925			2902
35	atc cgc agc cac tcc ttc cgg aac acg ata ctg ggt tac ttt gac tat Ile Arg Ser His Ser Phe Arg Asn Thr Ile Leu Gly Tyr Phe Asp Tyr 930 935 940			2950
40	gcc ttc aca gcc atc ttt act gtt gag atc ctg ttg aag atg aca act Ala Phe Thr Ala Ile Phe Thr Val Glu Ile Leu Leu Lys Met Thr Thr 945 950 955 960			2998
45	ttt gga gct ttc ctc cac aaa ggg gcc ttc tgc agg aac tac ttc aat Phe Gly Ala Phe Leu His Lys Gly Ala Phe Cys Arg Asn Tyr Phe Asn 965 970 975			3046
50	ttg ctg gat atg ctg gtg gtt ggg gtg tct ctg gtg tca ttt ggg att Leu Leu Asp Met Leu Val Val Gly Val Ser Leu Val Ser Phe Gly Ile 980 985 990			3094
55	caa tcc agt gcc atc tcc gtt gtg aag att ctg agg gtc tta agg gtc Gln Ser Ser Ala Ile Ser Val Val Lys Ile Leu Arg Val Leu Arg Val 995 1000 1005			3142
60	ctg cgt ccc ctc agg gcc atc aac aga gca aaa gga ctt aag cac Leu Arg Pro Leu Arg Ala Ile Asn Arg Ala Lys Gly Leu Lys His 1010 1015 1020			3187
65	gtg gtc cag tgc gtc ttc gtg gcc atc cgg acc atc ggc aac atc Val Val Gln Cys Val Phe Val Ala Ile Arg Thr Ile Gly Asn Ile 1025 1030 1035			3232
70	atg atc gtc act acc ctc ctg cag ttc atg ttt gcc tgt atc ggg Met Ile Val Thr Thr Leu Leu Gln Phe Met Phe Ala Cys Ile Gly 1040 1045 1050			3277
75	gtc cag ttg ttc aag ggg aag ttc tat cgc tgt acg gat gaa gcc Val Gln Leu Phe Lys Gly Lys Phe Tyr Arg Cys Thr Asp Glu Ala 1055 1060 1065			3322
80	aaa agt aac cct gaa gaa tgc agg gga ctt ttc atc ctc tac aag Lys Ser Asn Pro Glu Glu Cys Arg Gly Leu Phe Ile Leu Tyr Lys			3367

	1070	1075	1080	
5	gat ggg gat gtt gac agt cct Asp Gly 1085	gtg gtc cgt gaa cgg Val Val Arg Glu Arg 1095	atc tgg caa Ile Trp Gln	3412
10	aac agt gat ttc aac ttc gac Asn Ser 1100	aac gtc ctc tct gct Asn Val Leu Ser Ala 1110	atg atg gcg Met Met Ala	3457
15	ctc ttc aca gtc tcc acg ttt Leu Phe Thr Val Ser Thr Phe 1115	gag ggc tgg cct gcg Glu Gly Trp Pro Ala 1125	ttg ctg tat Leu Leu Tyr	3502
20	aaa gcc atc gac tcg aat gga Lys Ala 1130	gag aac atc ggc cca Glu Asn Ile Gly Pro 1140	atc tac aac Ile Tyr Asn	3547
25	cac cgc gtg gag atc tcc atc His Arg 1145	ttc ttc atc atc tac Phe Phe Ile Ile Tyr 1155	atc atc att Ile Ile Ile	3592
30	gta gct ttc ttc atg atg aac Val Ala 1160	atc ttt gtg ggc ttt Ile Phe Val Gly Phe 1170	gtc atc gtt Val Ile Val	3637
35	aca ttt cag gaa caa gga gaa Thr Phe 1175	aaa gag tat aag aac Lys Glu Tyr Lys Asn 1185	tgt gag ctg Cys Glu Leu	3682
40	gac aaa aat cag cgt cag tgt Asp Lys 1190	gtt gaa tac gcc ttg Val Glu Tyr Ala Leu 1200	aaa gca cgt Lys Ala Arg	3727
45	ccc ttg cgg aga tac atc ccc Pro Leu 1205	aaa aac ccc tac cag Lys Asn Pro Tyr Gln 1215	tac aag ttc Tyr Lys Phe	3772
50	tggtac gtggtg aactct tcg Trp Tyr 1220	cctttc gaatac atg Pro Phe Glu Tyr Met 1230	atgttt gtc Met Phe Val	3817
55	ctc atc atg ctc aac aca ctc Leu Ile 1235	tgc ttg gcc atg cag Cys Leu Ala Met Gln 1245	cac tac gag His Tyr Glu	3862
60	cag tcc aag atg ttc aat gat Gln Ser 1250	gcc atg gac att ctg Ala Met Asp Ile Leu 1260	aac atg gtc Asn Met Val	3907
65	ttc acc ggg gtg ttc acc gtc Phe Thr 1265	gag atg gtt ttg aaa Glu Met Val Leu Lys 1275	gtc atc gca Val Ile Ala	3952
70	ttt aag cct aag ggg tat ttt Phe Lys 1280	agt gac gcc tgg aac Ser Asp Ala Trp Asn 1290	acg ttt gac Thr Phe Asp	3997
75	tcc ctc atc gta atc ggc agc Ser Leu 1295	att ata gac gtg gcc Ile Ile Asp Val Ala 1305	ctc agc gaa Leu Ser Glu	4042
80	gcg gac cca act gaa agt gaa Ala Asp 1300	aat gtc cct gtc cca Asn Val Pro Val Pro 1305	act gct aca Thr Ala Thr	4087



	1550		1555		1560		
5	gtc atg ttt aat gca acc ctg ttt gct ttg gtt cga acg gct ctt Val Met Phe Asn Ala Thr Leu Phe Ala Leu Val Arg Thr Ala Leu 1565 1570 1575	4852					
10	aag atc aag acc gaa ggg aac ctg gag caa gct aat gaa gaa ctt Lys Ile Lys Thr Glu Gly Asn Leu Glu Gln Ala Asn Glu Glu Leu 1580 1585 1590	4897					
15	cgg gct gtg ata aag aaa att tgg aag aaa acc agc atg aaa tta Arg Ala Val Ile Lys Lys Ile Trp Lys Lys Thr Ser Met Lys Leu 1595 1600 1605	4942					
20	ctt gac caa gtt gtc cct cca gct ggt gat gat gag gta acc gtg Leu Asp Gln Val Val Pro Pro Ala Gly Asp Asp Glu Val Thr Val 1610 1615 1620	4987					
25	ggg aag ttc tat gcc act ttc ctg ata cag gac tac ttt agg aaa Gly Lys Phe Tyr Ala Thr Phe Leu Ile Gln Asp Tyr Phe Arg Lys 1625 1630 1635	5032					
30	ttc aag aaa cgg aaa gaa caa gga ctg gtg gga aag tac cct gcg Phe Lys Lys Arg Lys Glu Gln Gly Leu Val Gly Lys Tyr Pro Ala 1640 1645 1650	5077					
35	aag aac acc aca att gcc cta cag gcg gga tta agg aca ctg cat Lys Asn Thr Thr Ile Ala Leu Gln Ala Gly Leu Arg Thr Leu His 1655 1660 1665	5122					
40	gac att ggg cca gaa atc cgg cgt gct ata tcg tgt gat ttg caa Asp Ile Gly Pro Glu Ile Arg Arg Ala Ile Ser Cys Asp Leu Gln 1670 1675 1680	5167					
45	gat gac gag cct gag gaa aca aaa cga gaa gaa gaa gat gat gtg Asp Asp Glu Pro Glu Glu Thr Lys Arg Glu Glu Glu Asp Asp Val 1685 1690 1695	5212					
50	ttc aaa aga aat ggt gcc ctg ctt gga aac cat gtc aat cat gtt Phe Lys Arg Asn Gly Ala Leu Leu Gly Asn His Val Asn His Val 1700 1705 1710	5257					
55	aat agt gat agg aga gat tcc ctt cag cag acc aat acc acc cac Asn Ser Asp Arg Arg Asp Ser Leu Gln Gln Thr Asn Thr Thr His 1715 1720 1725	5302					
60	cgt ccc ctg cat gtc caa agg cct tca att cca cct gca agt gat Arg Pro Leu His Val Gln Arg Pro Ser Ile Pro Pro Ala Ser Asp 1730 1735 1740	5347					
65	act gag aaa ccg ctg ttt cct cca gca gga aat tcg gtg tgt cat Thr Glu Lys Pro Leu Phe Pro Pro Ala Gly Asn Ser Val Cys His 1745 1750 1755	5392					
70	aac cat cat aac cat aat tcc ata gga aag caa gtt ccc acc tca Asn His His Asn His Asn Ser Ile Gly Lys Gln Val Pro Thr Ser 1760 1765 1770	5437					
75	aca aat gcc aat ctc aat aat gcc aat atg tcc aaa gct gcc cat Thr Asn Ala Asn Leu Asn Asn Ala Asn Met Ser Lys Ala Ala His 1775 1780 1785	5482					
80	gga aag cgg ccc agc att ggg aac ctt gag cat gtg tct gaa aat Gly Lys Arg Pro Ser Ile Gly Asn Leu Glu His Val Ser Glu Asn	5527					

	1790	1795	1800	
5	ggg cat cat tct tcc cac aag Gly His His Ser Ser His Lys 1805 1810	cat gac cgg gag cct His Asp Arg Glu Pro 1815	cag aga agg Gln Arg Arg	5572
10	tcc agt gtg aaa aga acc cgc Ser Ser Val Lys Arg Thr Arg 1820 1825	tat tat gaa act tac Tyr Tyr Glu Thr Tyr 1830	att agg tcc Ile Arg Ser	5617
15	gac tca gga gat gaa cag ctc Asp Ser Gly Asp Glu Gln Leu 1835 1840	cca act att tgc cgg Pro Thr Ile Cys Arg 1845	gaa gac cca Glu Asp Pro	5662
20	gag ata cat ggc tat ttc agg Glu Ile His Gly Tyr Phe Arg 1850 1855	gac ccc cac tgc ttg Asp Pro His Cys Leu 1860	ggg gag cag Gly Glu Gln	5707
25	gag tat ttc agt agt gag gaa Glu Tyr Phe Ser Ser Glu Glu 1865 1870	tgc tac gag gat gac Cys Tyr Glu Asp Asp 1875	agc tcg ccc Ser Ser Pro	5752
30	acc tgg agc agg caa aac tat Thr Trp Ser Arg Gln Asn Tyr 1880 1885	ggc tac tac agc aga Gly Tyr Tyr Ser Arg 1890	tac cca ggc Tyr Pro Gly	5797
35	aga aac atc gac tct gag agg Arg Asn Ile Asp Ser Glu Arg 1895 1900	ccc cga ggc tac cat Pro Arg Gly Tyr His 1905	cat ccc caa His Pro Gln	5842
40	gga ttc ttg gag gac gat gac Gly Phe Leu Glu Asp Asp Asp 1910 1915	tcg ccc gtt tgc tat Ser Pro Val Cys Tyr 1920	gat tca cgg Asp Ser Arg	5887
45	aga tct cca agg aga cgc cta Arg Ser Pro Arg Arg Arg Leu 1925 1930	cta cct ccc acc cca Leu Pro Pro Thr Pro 1935	gca tcc cac Ala Ser His	5932
50	cgg aga tcc tcc ttc aac ttt Arg Arg Ser Ser Phe Asn Phe 1940 1945	gag tgc ctg cgc cgg Glu Cys Leu Arg Arg 1950	cag agc agc Gln Ser Ser	5977
55	cag gaa gag gtc ccg tcg tct Gln Glu Glu Val Pro Ser Ser 1955 1960	ccc atc ttc ccc cat Pro Ile Phe Pro His 1965	cgc acg gcc Arg Thr Ala	6022
60	ctg cct ctg cat cta atg cag Leu Pro Leu His Leu Met Gln 1970 1975	caa cag atc atg gca Gln Gln Ile Met Ala 1980	gtt gcc ggc Val Ala Gly	6067
65	cta gat tca agt aaa gcc cag Leu Asp Ser Ser Lys Ala Gln 1985 1990	aag tac tca ccg agt Lys Tyr Ser Pro Ser 1995	cac tcg acc His Ser Thr	6112
70	cgg tcg tgg gcc acc cct cca Arg Ser Trp Ala Thr Pro Pro 2000 2005	gca acc cct ccc tac Ala Thr Pro Pro Tyr 2010	cgg gac tgg Arg Asp Trp	6157
75	aca ccg tgc tac acc ccc ctg Thr Pro Cys Tyr Thr Pro Leu 2015 2020	atc caa gtg gag cag Ile Gln Val Glu Gln 2025	tca gag gcc Ser Glu Ala	6202
80	ctg gac cag gtg aac ggc agc Leu Asp Gln Val Asn Gly Ser 2025 2030	ctg ccg tcc ctg cac Leu Pro Ser Leu His 2035	cgc agc tcc Arg Ser Ser	6247

	2030	2035	2040	
5	tgg tac aca gac gag ccc Trp Tyr Thr Asp Glu Pro	gac atc tcc tac cgg act Asp Ile Ser Tyr Arg Thr	ttc aca cca Phe Thr Pro	6292
	2045	2050	2055	
10	gcc agc ctg act gtc ccc Ala Ser Leu Thr Val Pro	agc agc ttc cgg aac aaa Ser Ser Phe Arg Asn Lys	aac agc gac Asn Ser Asp	6337
	2060	2065	2070	
	aag cag agg agt gcg gac Lys Gln Arg Ser Ala Asp	agc ttg gtg gag gca gtc Ser Leu Val Glu Ala Val	ctg ata tcc Leu Ile Ser	6382
	2075	2080	2085	
15	gaa ggc ttg gga cgc tat Glu Gly Leu Gly Arg Tyr	gca agg gac cca aaa ttt Ala Arg Asp Pro Lys Phe	gtg tca gca Val Ser Ala	6427
	2090	2095	2100	
20	aca aaa cac gaa atc gct Thr Lys His Glu Ile Ala	gat gcc tgt gac ctc acc Asp Ala Cys Asp Leu Thr	atc gac gag Ile Asp Glu	6472
	2105	2110	2115	
25	atg gag agt gca gcc agc Met Glu Ser Ala Ala Ser	acc ctg ctt aat ggg aac Thr Leu Leu Asn Gly Asn	gtg cgt ccc Val Arg Pro	6517
	2120	2125	2130	
30	cga gcc aac ggg gat gtg ggc Arg Ala Asn Gly Asp Val Gly	ccc ctc tca cac cgg Pro Leu Ser His Arg	cag gac tat Gln Asp Tyr	6562
	2135	2140	2145	
	gag cta cag gac ttt ggt cct Glu Leu Gln Asp Phe Gly Pro	ggc tac agc gac gaa Gly Tyr Ser Asp Glu	gag cca gac Glu Pro Asp	6607
	2150	2155	2160	
35	cct ggg agg gat gag gag gac Pro Gly Arg Asp Glu Glu Asp	ctg gcg gat gaa atg Leu Ala Asp Glu Met	ata tgc atc Ile Cys Ile	6652
	2165	2170	2175	
40	acc acc ttg tag ccccccagcga Thr Thr Leu	ggggcagact ggctctggcc	tcaggtgggg	6704
	2180			
45	cgcaggagag ccaggggaaa agtgcctcat taatattcaa ttaattagac ttttgtataa	gagatgtcat gcctcaagaa agccataaac		6764
				6824
	ctggtaggaa caggtcccaa gcggttgagc	ctggcagagt accatgcgct cggccccagc		6884
50	tgaggagaaac agcaggcccc gccctctcac	agaggatggg tgaggaggcc agacctgccc		6944
	tgccccattg tccagatggg cactgctgtg	gagtcgtcct ctcccatgta ccagggcacc		7004
	aggcccccccc aactgaaggc atggcggcgg	ggtgcagggg aaagttaaag gtgatgacga		7064
55	tcatcacacc tcgtgtcggt acctcagcca	tcggtctagc atatcagtca ctgggcccac		7124
	catatccatt tttaaaccct ttcccccaaa	tacactgcgt cctgggttcct gtttagctgt		7184
60	tctgaaata			7193
	<210> 18			
	<211> 2181			
	<212> PRT			



<213> Homo sapiens

<400> 18

5 Met Met Met Met Met Met Met Lys Lys Met Gln His Gln Arg Gln Gln  
1 5 10 15  
Gln Ala Asp His Ala Asn Glu Ala Asn Tyr Ala Arg Gly Thr Arg Leu  
20 25 30  
10 Pro Leu Ser Gly Glu Gly Pro Thr Ser Gln Pro Asn Ser Ser Lys Gln  
35 40 45  
Thr Val Leu Ser Trp Gln Ala Ala Ile Asp Ala Ala Arg Gln Ala Lys  
50 55 60  
15 Ala Ala Gln Thr Met Ser Thr Ser Ala Pro Pro Pro Val Gly Ser Leu  
65 70 75 80  
20 Ser Gln Arg Lys Arg Gln Gln Tyr Ala Lys Ser Lys Lys Gln Gly Asn  
85 90 95  
Ser Ser Asn Ser Arg Pro Ala Arg Ala Leu Phe Cys Leu Ser Leu Asn  
100 105 110  
25 Asn Pro Ile Arg Arg Ala Cys Ile Ser Ile Val Glu Trp Lys Pro Phe  
115 120 125  
30 Asp Ile Phe Ile Leu Leu Ala Ile Phe Ala Asn Cys Val Ala Leu Ala  
130 135 140  
Ile Tyr Ile Pro Phe Pro Glu Asp Asp Ser Asn Ser Thr Asn His Asn  
145 150 155 160  
35 Leu Glu Lys Val Glu Tyr Ala Phe Leu Ile Ile Phe Thr Val Glu Thr  
165 170 175  
Phe Leu Lys Ile Ile Ala Tyr Gly Leu Leu Leu His Pro Asn Ala Tyr  
180 185 190  
40 Val Arg Asn Gly Trp Asn Leu Leu Asp Phe Val Ile Val Ile Val Gly  
195 200 205  
45 Leu Phe Ser Val Ile Leu Glu Gln Leu Thr Lys Glu Thr Glu Gly Gly  
210 215 220  
Asn His Ser Ser Gly Lys Ser Gly Gly Phe Asp Val Lys Ala Leu Arg  
225 230 235 240  
50 Ala Phe Arg Val Leu Arg Pro Leu Arg Leu Val Ser Gly Val Pro Ser  
245 250 255  
Leu Gln Val Val Leu Asn Ser Ile Ile Lys Ala Met Val Pro Leu Leu  
260 265 270  
His Ile Ala Leu Leu Val Leu Phe Val Ile Ile Ile Tyr Ala Ile Ile  
275 280 285  
60 Gly Leu Glu Leu Phe Ile Gly Lys Met His Lys Thr Cys Phe Phe Ala  
290 295 300  
Asp Ser Asp Ile Val Ala Glu Glu Asp Pro Ala Pro Cys Ala Phe Ser  
305 310 315 320

	Gly	Asn	Gly	Arg	Gln	Cys	Thr	Ala	Asn	Gly	Thr	Glu	Cys	Arg	Ser	Gly	
					325					330					335		
5	Trp	Val	Gly	Pro	Asn	Gly	Gly	Ile	Thr	Asn	Phe	Asp	Asn	Phe	Ala	Phe	
				340					345					350			
10	Ala	Met	Leu	Thr	Val	Phe	Gln	Cys	Ile	Thr	Met	Glu	Gly	Trp	Thr	Asp	
			355					360					365				
	Val	Leu	Tyr	Trp	Val	Asn	Asp	Ala	Ile	Gly	Trp	Glu	Trp	Pro	Trp	Val	
		370					375					380					
15	Tyr	Phe	Val	Ser	Leu	Ile	Ile	Leu	Gly	Ser	Phe	Phe	Val	Leu	Asn	Leu	
	385					390					395				400		
	Val	Leu	Gly	Val	Leu	Ser	Gly	Glu	Phe	Ser	Lys	Glu	Arg	Glu	Lys	Ala	
					405					410					415		
20	Lys	Ala	Arg	Gly	Asp	Phe	Gln	Lys	Leu	Arg	Glu	Lys	Gln	Gln	Leu	Glu	
				420					425					430			
	Glu	Asp	Leu	Lys	Gly	Tyr	Leu	Asp	Trp	Ile	Thr	Gln	Ala	Glu	Asp	Ile	
25			435					440					445				
	Asp	Pro	Glu	Asn	Glu	Glu	Glu	Gly	Gly	Glu	Glu	Gly	Lys	Arg	Asn	Thr	
		450					455					460					
30	Ser	Met	Pro	Thr	Ser	Glu	Thr	Glu	Ser	Val	Asn	Thr	Glu	Asn	Val	Ser	
	465					470					475				480		
	Gly	Glu	Gly	Glu	Asn	Arg	Gly	Cys	Cys	Gly	Ser	Leu	Trp	Cys	Trp	Trp	
					485					490					495		
35	Arg	Arg	Arg	Gly	Ala	Ala	Lys	Ala	Gly	Pro	Ser	Gly	Cys	Arg	Arg	Trp	
				500					505					510			
	Gly	Gln	Ala	Ile	Ser	Lys	Ser	Lys	Leu	Ser	Arg	Arg	Trp	Arg	Arg	Trp	
40			515					520					525				
	Asn	Arg	Phe	Asn	Arg	Arg	Arg	Cys	Arg	Ala	Ala	Val	Lys	Ser	Val	Thr	
		530					535					540					
45	Phe	Tyr	Trp	Leu	Val	Ile	Val	Leu	Val	Phe	Leu	Asn	Thr	Leu	Thr	Ile	
	545					550					555					560	
	Ser	Ser	Glu	His	Tyr	Asn	Gln	Pro	Asp	Trp	Leu	Thr	Gln	Ile	Gln	Asp	
					565					570					575		
50	Ile	Ala	Asn	Lys	Val	Leu	Leu	Ala	Leu	Phe	Thr	Cys	Glu	Met	Leu	Val	
				580					585					590			
	Lys	Met	Tyr	Ser	Leu	Gly	Leu	Gln	Ala	Tyr	Phe	Val	Ser	Leu	Phe	Asn	
55			595					600					605				
	Arg	Phe	Asp	Cys	Phe	Val	Val	Cys	Gly	Gly	Ile	Thr	Glu	Thr	Ile	Leu	
		610					615					620					
60	Val	Glu	Leu	Glu	Ile	Met	Ser	Pro	Leu	Gly	Ile	Ser	Val	Phe	Arg	Cys	
	625					630					635					640	
	Val	Arg	Leu	Leu	Arg	Ile	Phe	Lys	Val	Thr	Arg	His	Trp	Thr	Ser	Leu	
					645					650					655		

	Ser	Asn	Leu	Val	Ala	Ser	Leu	Leu	Asn	Ser	Met	Lys	Ser	Ile	Ala	Ser	
				660					665					670			
5	Leu	Leu	Leu	Leu	Leu	Phe	Leu	Phe	Ile	Ile	Ile	Phe	Ser	Leu	Leu	Gly	
			675					680					685				
	Met	Gln	Leu	Phe	Gly	Gly	Lys	Phe	Asn	Phe	Asp	Glu	Thr	Gln	Thr	Lys	
		690					695					700					
10	Arg	Ser	Thr	Phe	Asp	Asn	Phe	Pro	Gln	Ala	Leu	Leu	Thr	Val	Phe	Gln	
	705					710					715					720	
	Ile	Leu	Thr	Gly	Glu	Asp	Trp	Asn	Ala	Val	Met	Tyr	Asp	Gly	Ile	Met	
15					725					730					735		
	Ala	Tyr	Gly	Gly	Pro	Ser	Ser	Ser	Gly	Met	Ile	Val	Cys	Ile	Tyr	Phe	
				740					745					750			
20	Ile	Ile	Leu	Phe	Ile	Cys	Gly	Asn	Tyr	Ile	Leu	Leu	Asn	Val	Phe	Leu	
			755					760					765				
	Ala	Ile	Ala	Val	Asp	Asn	Leu	Ala	Asp	Ala	Glu	Ser	Leu	Asn	Thr	Ala	
25		770					775					780					
	Gln	Lys	Glu	Glu	Ala	Glu	Glu	Lys	Glu	Arg	Lys	Lys	Ile	Ala	Arg	Lys	
	785					790					795					800	
30	Glu	Ser	Leu	Glu	Asn	Lys	Lys	Asn	Asn	Lys	Pro	Glu	Val	Asn	Gln	Ile	
					805					810					815		
	Ala	Asn	Ser	Asp	Asn	Lys	Val	Thr	Ile	Asp	Asp	Tyr	Arg	Glu	Glu	Asp	
				820					825					830			
35	Glu	Asp	Lys	Asp	Pro	Tyr	Pro	Pro	Cys	Asp	Val	Pro	Val	Gly	Glu	Glu	
			835					840					845				
	Glu	Glu	Glu	Glu	Glu	Glu	Asp	Glu	Pro	Glu	Val	Pro	Ala	Gly	Pro	Arg	
40		850					855					860					
	Pro	Arg	Arg	Ile	Ser	Glu	Leu	Asn	Met	Lys	Glu	Lys	Ile	Ala	Pro	Ile	
	865					870					875					880	
45	Pro	Glu	Gly	Ser	Ala	Phe	Phe	Ile	Leu	Ser	Lys	Thr	Asn	Pro	Ile	Arg	
					885					890					895		
	Val	Gly	Cys	His	Lys	Leu	Ile	Asn	His	His	Ile	Phe	Thr	Asn	Leu	Ile	
				900					905					910			
50	Leu	Val	Phe	Ile	Met	Leu	Ser	Ser	Ala	Ala	Leu	Ala	Ala	Glu	Asp	Pro	
			915					920					925				
	Ile	Arg	Ser	His	Ser	Phe	Arg	Asn	Thr	Ile	Leu	Gly	Tyr	Phe	Asp	Tyr	
55		930					935					940					
	Ala	Phe	Thr	Ala	Ile	Phe	Thr	Val	Glu	Ile	Leu	Leu	Lys	Met	Thr	Thr	
	945					950					955					960	
60	Phe	Gly	Ala	Phe	Leu	His	Lys	Gly	Ala	Phe	Cys	Arg	Asn	Tyr	Phe	Asn	
					965					970					975		
	Leu	Leu	Asp	Met	Leu	Val	Val	Gly	Val	Ser	Leu	Val	Ser	Phe	Gly	Ile	
				980					985					990			

	Gln	Ser	Ser	Ala	Ile	Ser	Val	Val	Lys	Ile	Leu	Arg	Val	Leu	Arg	Val
			995					1000					1005			
5	Leu	Arg	Pro	Leu	Arg	Ala	Ile	Asn	Arg	Ala	Lys	Gly	Leu	Lys	His	
	1010						1015					1020				
	Val	Val	Gln	Cys	Val	Phe	Val	Ala	Ile	Arg	Thr	Ile	Gly	Asn	Ile	
	1025						1030					1035				
10	Met	Ile	Val	Thr	Thr	Leu	Leu	Gln	Phe	Met	Phe	Ala	Cys	Ile	Gly	
	1040						1045					1050				
	Val	Gln	Leu	Phe	Lys	Gly	Lys	Phe	Tyr	Arg	Cys	Thr	Asp	Glu	Ala	
15	1055						1060					1065				
	Lys	Ser	Asn	Pro	Glu	Glu	Cys	Arg	Gly	Leu	Phe	Ile	Leu	Tyr	Lys	
	1070						1075					1080				
20	Asp	Gly	Asp	Val	Asp	Ser	Pro	Val	Val	Arg	Glu	Arg	Ile	Trp	Gln	
	1085						1090					1095				
	Asn	Ser	Asp	Phe	Asn	Phe	Asp	Asn	Val	Leu	Ser	Ala	Met	Met	Ala	
25	1100						1105					1110				
	Leu	Phe	Thr	Val	Ser	Thr	Phe	Glu	Gly	Trp	Pro	Ala	Leu	Leu	Tyr	
	1115						1120					1125				
30	Lys	Ala	Ile	Asp	Ser	Asn	Gly	Glu	Asn	Ile	Gly	Pro	Ile	Tyr	Asn	
	1130						1135					1140				
	His	Arg	Val	Glu	Ile	Ser	Ile	Phe	Phe	Ile	Ile	Tyr	Ile	Ile	Ile	
35	1145						1150					1155				
	Val	Ala	Phe	Phe	Met	Met	Asn	Ile	Phe	Val	Gly	Phe	Val	Ile	Val	
	1160						1165					1170				
40	Thr	Phe	Gln	Glu	Gln	Gly	Glu	Lys	Glu	Tyr	Lys	Asn	Cys	Glu	Leu	
	1175						1180					1185				
	Asp	Lys	Asn	Gln	Arg	Gln	Cys	Val	Glu	Tyr	Ala	Leu	Lys	Ala	Arg	
	1190						1195					1200				
45	Pro	Leu	Arg	Arg	Tyr	Ile	Pro	Lys	Asn	Pro	Tyr	Gln	Tyr	Lys	Phe	
	1205						1210					1215				
	Trp	Tyr	Val	Val	Asn	Ser	Ser	Pro	Phe	Glu	Tyr	Met	Met	Phe	Val	
50	1220						1225					1230				
	Leu	Ile	Met	Leu	Asn	Thr	Leu	Cys	Leu	Ala	Met	Gln	His	Tyr	Glu	
	1235						1240					1245				
	Gln	Ser	Lys	Met	Phe	Asn	Asp	Ala	Met	Asp	Ile	Leu	Asn	Met	Val	
55	1250						1255					1260				
	Phe	Thr	Gly	Val	Phe	Thr	Val	Glu	Met	Val	Leu	Lys	Val	Ile	Ala	
	1265						1270					1275				
60	Phe	Lys	Pro	Lys	Gly	Tyr	Phe	Ser	Asp	Ala	Trp	Asn	Thr	Phe	Asp	
	1280						1285					1290				
	Ser	Leu	Ile	Val	Ile	Gly	Ser	Ile	Ile	Asp	Val	Ala	Leu	Ser	Glu	
	1295						1300					1305				

	Ala	Asp	Pro	Thr	Glu	Ser	Glu	Asn	Val	Pro	Val	Pro	Thr	Ala	Thr
	1310						1315					1320			
5	Pro	Gly	Asn	Ser	Glu	Glu	Ser	Asn	Arg	Ile	Ser	Ile	Thr	Phe	Phe
	1325						1330					1335			
	Arg	Leu	Phe	Arg	Val	Met	Arg	Leu	Val	Lys	Leu	Leu	Ser	Arg	Gly
	1340						1345					1350			
10	Glu	Gly	Ile	Arg	Thr	Leu	Leu	Trp	Thr	Phe	Ile	Lys	Ser	Phe	Gln
	1355						1360					1365			
	Ala	Leu	Pro	Tyr	Val	Ala	Leu	Leu	Ile	Ala	Met	Leu	Phe	Phe	Ile
15	1370						1375					1380			
	Tyr	Ala	Val	Ile	Gly	Met	Gln	Met	Phe	Gly	Lys	Val	Ala	Met	Arg
	1385						1390					1395			
20	Asp	Asn	Asn	Gln	Ile	Asn	Arg	Asn	Asn	Asn	Phe	Gln	Thr	Phe	Pro
	1400						1405					1410			
	Gln	Ala	Val	Leu	Leu	Leu	Phe	Arg	Cys	Ala	Thr	Gly	Glu	Ala	Trp
25	1415						1420					1425			
	Gln	Glu	Ile	Met	Leu	Ala	Cys	Leu	Pro	Gly	Lys	Leu	Cys	Asp	Pro
	1430						1435					1440			
30	Glu	Ser	Asp	Tyr	Asn	Pro	Gly	Glu	Glu	Tyr	Thr	Cys	Gly	Ser	Asn
	1445						1450					1455			
	Phe	Ala	Ile	Val	Tyr	Phe	Ile	Ser	Phe	Tyr	Met	Leu	Cys	Ala	Phe
35	1460						1465					1470			
	Leu	Ile	Ile	Asn	Leu	Phe	Val	Ala	Val	Ile	Met	Asp	Asn	Phe	Asp
	1475						1480					1485			
40	Tyr	Leu	Thr	Arg	Asp	Trp	Ser	Ile	Leu	Gly	Pro	His	His	Leu	Asp
	1490						1495					1500			
	Glu	Phe	Lys	Arg	Ile	Trp	Ser	Glu	Tyr	Asp	Pro	Glu	Ala	Lys	Gly
	1505						1510					1515			
45	Arg	Ile	Lys	His	Leu	Asp	Val	Val	Thr	Leu	Leu	Arg	Arg	Ile	Gln
	1520						1525					1530			
	Pro	Pro	Leu	Gly	Phe	Gly	Lys	Leu	Cys	Pro	His	Arg	Val	Ala	Cys
50	1535						1540					1545			
	Lys	Arg	Leu	Val	Ala	Met	Asn	Met	Pro	Leu	Asn	Ser	Asp	Gly	Thr
	1550						1555					1560			
	Val	Met	Phe	Asn	Ala	Thr	Leu	Phe	Ala	Leu	Val	Arg	Thr	Ala	Leu
55	1565						1570					1575			
	Lys	Ile	Lys	Thr	Glu	Gly	Asn	Leu	Glu	Gln	Ala	Asn	Glu	Glu	Leu
	1580						1585					1590			
60	Arg	Ala	Val	Ile	Lys	Lys	Ile	Trp	Lys	Lys	Thr	Ser	Met	Lys	Leu
	1595						1600					1605			
	Leu	Asp	Gln	Val	Val	Pro	Pro	Ala	Gly	Asp	Asp	Glu	Val	Thr	Val
	1610						1615					1620			

	Gly	Lys	Phe	Tyr	Ala	Thr	Phe	Leu	Ile	Gln	Asp	Tyr	Phe	Arg	Lys
	1625						1630					1635			
5	Phe	Lys	Lys	Arg	Lys	Glu	Gln	Gly	Leu	Val	Gly	Lys	Tyr	Pro	Ala
	1640						1645					1650			
	Lys	Asn	Thr	Thr	Ile	Ala	Leu	Gln	Ala	Gly	Leu	Arg	Thr	Leu	His
	1655						1660					1665			
10	Asp	Ile	Gly	Pro	Glu	Ile	Arg	Arg	Ala	Ile	Ser	Cys	Asp	Leu	Gln
	1670						1675					1680			
	Asp	Asp	Glu	Pro	Glu	Glu	Thr	Lys	Arg	Glu	Glu	Glu	Asp	Asp	Val
15	1685						1690					1695			
	Phe	Lys	Arg	Asn	Gly	Ala	Leu	Leu	Gly	Asn	His	Val	Asn	His	Val
	1700						1705					1710			
20	Asn	Ser	Asp	Arg	Arg	Asp	Ser	Leu	Gln	Gln	Thr	Asn	Thr	Thr	His
	1715						1720					1725			
	Arg	Pro	Leu	His	Val	Gln	Arg	Pro	Ser	Ile	Pro	Pro	Ala	Ser	Asp
25	1730						1735					1740			
	Thr	Glu	Lys	Pro	Leu	Phe	Pro	Pro	Ala	Gly	Asn	Ser	Val	Cys	His
	1745						1750					1755			
30	Asn	His	His	Asn	His	Asn	Ser	Ile	Gly	Lys	Gln	Val	Pro	Thr	Ser
	1760						1765					1770			
	Thr	Asn	Ala	Asn	Leu	Asn	Asn	Ala	Asn	Met	Ser	Lys	Ala	Ala	His
	1775						1780					1785			
35	Gly	Lys	Arg	Pro	Ser	Ile	Gly	Asn	Leu	Glu	His	Val	Ser	Glu	Asn
	1790						1795					1800			
	Gly	His	His	Ser	Ser	His	Lys	His	Asp	Arg	Glu	Pro	Gln	Arg	Arg
40	1805						1810					1815			
	Ser	Ser	Val	Lys	Arg	Thr	Arg	Tyr	Tyr	Glu	Thr	Tyr	Ile	Arg	Ser
	1820						1825					1830			
45	Asp	Ser	Gly	Asp	Glu	Gln	Leu	Pro	Thr	Ile	Cys	Arg	Glu	Asp	Pro
	1835						1840					1845			
	Glu	Ile	His	Gly	Tyr	Phe	Arg	Asp	Pro	His	Cys	Leu	Gly	Glu	Gln
	1850						1855					1860			
50	Glu	Tyr	Phe	Ser	Ser	Glu	Glu	Cys	Tyr	Glu	Asp	Asp	Ser	Ser	Pro
	1865						1870					1875			
	Thr	Trp	Ser	Arg	Gln	Asn	Tyr	Gly	Tyr	Tyr	Ser	Arg	Tyr	Pro	Gly
55	1880						1885					1890			
	Arg	Asn	Ile	Asp	Ser	Glu	Arg	Pro	Arg	Gly	Tyr	His	His	Pro	Gln
	1895						1900					1905			
60	Gly	Phe	Leu	Glu	Asp	Asp	Asp	Ser	Pro	Val	Cys	Tyr	Asp	Ser	Arg
	1910						1915					1920			
	Arg	Ser	Pro	Arg	Arg	Arg	Leu	Leu	Pro	Pro	Thr	Pro	Ala	Ser	His
	1925						1930					1935			

	Arg	Arg	Ser	Ser	Phe	Asn	Phe	Glu	Cys	Leu	Arg	Arg	Gln	Ser	Ser
	1940						1945					1950			
5	Gln	Glu	Glu	Val	Pro	Ser	Ser	Pro	Ile	Phe	Pro	His	Arg	Thr	Ala
	1955						1960					1965			
	Leu	Pro	Leu	His	Leu	Met	Gln	Gln	Gln	Ile	Met	Ala	Val	Ala	Gly
10	1970						1975					1980			
	Leu	Asp	Ser	Ser	Lys	Ala	Gln	Lys	Tyr	Ser	Pro	Ser	His	Ser	Thr
	1985						1990					1995			
15	Arg	Ser	Trp	Ala	Thr	Pro	Pro	Ala	Thr	Pro	Pro	Tyr	Arg	Asp	Trp
	2000						2005					2010			
	Thr	Pro	Cys	Tyr	Thr	Pro	Leu	Ile	Gln	Val	Glu	Gln	Ser	Glu	Ala
	2015						2020					2025			
20	Leu	Asp	Gln	Val	Asn	Gly	Ser	Leu	Pro	Ser	Leu	His	Arg	Ser	Ser
	2030						2035					2040			
	Trp	Tyr	Thr	Asp	Glu	Pro	Asp	Ile	Ser	Tyr	Arg	Thr	Phe	Thr	Pro
25	2045						2050					2055			
	Ala	Ser	Leu	Thr	Val	Pro	Ser	Ser	Phe	Arg	Asn	Lys	Asn	Ser	Asp
	2060						2065					2070			
30	Lys	Gln	Arg	Ser	Ala	Asp	Ser	Leu	Val	Glu	Ala	Val	Leu	Ile	Ser
	2075						2080					2085			
	Glu	Gly	Leu	Gly	Arg	Tyr	Ala	Arg	Asp	Pro	Lys	Phe	Val	Ser	Ala
35	2090						2095					2100			
	Thr	Lys	His	Glu	Ile	Ala	Asp	Ala	Cys	Asp	Leu	Thr	Ile	Asp	Glu
	2105						2110					2115			
40	Met	Glu	Ser	Ala	Ala	Ser	Thr	Leu	Leu	Asn	Gly	Asn	Val	Arg	Pro
	2120						2125					2130			
	Arg	Ala	Asn	Gly	Asp	Val	Gly	Pro	Leu	Ser	His	Arg	Gln	Asp	Tyr
	2135						2140					2145			
45	Glu	Leu	Gln	Asp	Phe	Gly	Pro	Gly	Tyr	Ser	Asp	Glu	Glu	Pro	Asp
	2150						2155					2160			
	Pro	Gly	Arg	Asp	Glu	Glu	Asp	Leu	Ala	Asp	Glu	Met	Ile	Cys	Ile
50	2165						2170					2175			
	Thr	Thr	Leu												
	2180														
55	<210>	19													
	<211>	7193													
	<212>	DNA													
	<213>	Homo sapiens													
60	<220>														
	<221>	gene													
	<222>	(1)..(7193)													

```

<220>
<221> CDS
<222> (119)..(6664)

5  <400> 19
agaataaggg cagggaccgc ggctcctatc tcttggtgat ccccttcccc attccgcccc 60

cgctcaacg cccagcacag tgccctgcac acagtagtcg ctcaataaat gttcgtgg 118

10 atg atg atg atg atg atg atg aaa aaa atg cag cat caa cgg cag cag 166
Met Met Met Met Met Met Met Lys Lys Met Gln His Gln Arg Gln Gln
1 5 10 15

caa gcg gac cac gcg aac gag gca aac tat gca aga ggc acc aga ctt 214
Gln Ala Asp His Ala Asn Glu Ala Asn Tyr Ala Arg Gly Thr Arg Leu
20 25 30

cct ctt tct ggt gaa gga cca act tct cag ccg aat agc tcc aag caa 262
Pro Leu Ser Gly Glu Gly Pro Thr Ser Gln Pro Asn Ser Ser Lys Gln
20 35 40 45

act gtc ctg tct tgg caa gct gca atc gat gct gct aga cag gcc aag 310
Thr Val Leu Ser Trp Gln Ala Ala Ile Asp Ala Ala Arg Gln Ala Lys
25 50 55 60

gct gcc caa act atg agc acc tct gca ccc cca cct gta gga tct ctc 358
Ala Ala Gln Thr Met Ser Thr Ser Ala Pro Pro Pro Val Gly Ser Leu
65 70 75 80

30 tcc caa aga aaa cgt cag caa tac gcc aag agc aaa aaa cag ggt aac 406
Ser Gln Arg Lys Arg Gln Gln Tyr Ala Lys Ser Lys Lys Gln Gly Asn
85 90 95

35 tcg tcc aac agc cga cct gcc cgc gcc ctt ttc tgt tta tca ctc aat 454
Ser Ser Asn Ser Arg Pro Ala Arg Ala Leu Phe Cys Leu Ser Leu Asn
100 105 110

aac ccc atc cga aga gcc tgc att agt ata gtg gaa tgg aaa cca ttt 502
Asn Pro Ile Arg Arg Ala Cys Ile Ser Ile Val Glu Trp Lys Pro Phe
115 120 125

gac ata ttt ata tta ttg gct att ttt gcc aat tgt gtg gcc tta gct 550
Asp Ile Phe Ile Leu Leu Ala Ile Phe Ala Asn Cys Val Ala Leu Ala
130 135 140

att tac atc cca ttc cct gaa gat gat tct aat tca aca aat cat aac 598
Ile Tyr Ile Pro Phe Pro Glu Asp Asp Ser Asn Ser Thr Asn His Asn
145 150 155 160

50 ttg gaa aaa gta gaa tat gcc ttc ctg att att ttt aca gtc gag aca 646
Leu Glu Lys Val Glu Tyr Ala Phe Leu Ile Ile Phe Thr Val Glu Thr
165 170 175

55 ttt ttg aag att ata gcg tat gga tta ttg cta cat cct aat gct tat 694
Phe Leu Lys Ile Ile Ala Tyr Gly Leu Leu Leu His Pro Asn Ala Tyr
180 185 190

gtt agg aat gga tgg aat tta ctg gat ttt gtt ata gta ata gta gga 742
Val Arg Asn Gly Trp Asn Leu Leu Asp Phe Val Ile Val Ile Val Gly
195 200 205

60 ttg ttt agt gta att ttg gaa caa tta acc aaa gaa aca gaa ggc ggg 790
Leu Phe Ser Val Ile Leu Glu Gln Leu Thr Lys Glu Thr Glu Gly Gly

```



	210		215		220		
	aac cac tca agc ggc aaa tct gga ggc ttt gat gtc aaa gcc ctc cgt	838					
5	Asn His Ser Ser Gly Lys Ser Gly Gly Phe Asp Val Lys Ala Leu Arg						
	225 230 235 240						
	gcc ttt cga gtg ttg cga cca ctt cga cta gtg tca ggg gtg ccc agt	886					
	Ala Phe Arg Val Leu Arg Pro Leu Arg Leu Val Ser Gly Val Pro Ser						
10	245 250 255						
	tta caa gtt gtc ctg aac tcc att ata aaa gcc atg gtt ccc ctc ctt	934					
	Leu Gln Val Val Leu Asn Ser Ile Ile Lys Ala Met Val Pro Leu Leu						
	260 265 270						
15	cac ata gcc ctt ttg gta tta ttt gta atc ata atc tat gct att ata	982					
	His Ile Ala Leu Leu Val Leu Phe Val Ile Ile Ile Tyr Ala Ile Ile						
	275 280 285						
20	gga ttg gaa ctt ttt att gga aaa atg cac aaa aca tgt ttt ttt gct	1030					
	Gly Leu Glu Leu Phe Ile Gly Lys Met His Lys Thr Cys Phe Phe Ala						
	290 295 300						
25	gac tca gat atc gta gct gaa gag gac cca gct cca tgt gcg ttc tca	1078					
	Asp Ser Asp Ile Val Ala Glu Glu Asp Pro Ala Pro Cys Ala Phe Ser						
	305 310 315 320						
	ggg aat gga cgc cag tgt act gcc aat ggc acg gaa tgt agg agt ggc	1126					
	Gly Asn Gly Arg Gln Cys Thr Ala Asn Gly Thr Glu Cys Arg Ser Gly						
30	325 330 335						
	tgg gtt ggc ccg aac gga ggc atc acc aac ttt gat aac ttt gcc ttt	1174					
	Trp Val Gly Pro Asn Gly Gly Ile Thr Asn Phe Asp Asn Phe Ala Phe						
	340 345 350						
35	gcc atg ctt act gtg ttt cag tgc atc acc atg gag ggc tgg aca gac	1222					
	Ala Met Leu Thr Val Phe Gln Cys Ile Thr Met Glu Gly Trp Thr Asp						
	355 360 365						
40	gtg ctc tac tgg gta aat gat gcg ata gga tgg gaa tgg cca tgg gtg	1270					
	Val Leu Tyr Trp Val Asn Asp Ala Ile Gly Trp Glu Trp Pro Trp Val						
	370 375 380						
45	tat ttt gtt agt ctg atc atc ctt ggc tca ttt ttc gtc ctt aac ctg	1318					
	Tyr Phe Val Ser Leu Ile Ile Leu Gly Ser Phe Phe Val Leu Asn Leu						
	385 390 395 400						
	gtt ctt ggt gtc ctt agt gga gaa ttc tca aag gaa aga gag aag gca	1366					
	Val Leu Gly Val Leu Ser Gly Glu Phe Ser Lys Glu Arg Glu Lys Ala						
50	405 410 415						
	aaa gca cgg gga gat ttc cag aag ctc cgg gag aag cag cag ctg gag	1414					
	Lys Ala Arg Gly Asp Phe Gln Lys Leu Arg Glu Lys Gln Gln Leu Glu						
	420 425 430						
55	gag gat cta aag ggc tac ttg gat tgg atc acc caa gct gag gac atc	1462					
	Glu Asp Leu Lys Gly Tyr Leu Asp Trp Ile Thr Gln Ala Glu Asp Ile						
	435 440 445						
60	gat ccg gag aat gag gaa gaa gga gga gag gaa ggc aaa cga aat act	1510					
	Asp Pro Glu Asn Glu Glu Glu Gly Gly Glu Glu Gly Lys Arg Asn Thr						
	450 455 460						
	agc atg ccc acc agc gag act gag tct gtg aac aca gag aac gtc agc	1558					
	Ser Met Pro Thr Ser Glu Thr Glu Ser Val Asn Thr Glu Asn Val Ser						

	465					470					475					480					
5	ggt	gaa	ggc	gag	aac	cga	ggc	tgc	tgt	gga	agt	ctc	tgg	tgc	tgg	tgg		1606			
	Gly	Glu	Gly	Glu	Asn	Arg	Gly	Cys	Cys	Gly	Ser	Leu	Trp	Cys	Trp	Trp					
	485					490					495										
10	aga	cgg	aga	ggc	gcg	gcc	aag	gcg	ggg	ccc	tct	ggg	tgt	cgg	cgg	tgg		1654			
	Arg	Arg	Arg	Gly	Ala	Ala	Lys	Ala	Gly	Pro	Ser	Gly	Cys	Arg	Arg	Trp					
	500					505					510										
15	ggt	caa	gcc	atc	tca	aaa	tcc	aaa	ctc	agc	cga	cgc	tgg	cgt	cgc	tgg		1702			
	Gly	Gln	Ala	Ile	Ser	Lys	Ser	Lys	Leu	Ser	Arg	Arg	Trp	Arg	Arg	Trp					
	515					520					525										
20	aac	cga	ttc	aat	cgc	aga	aga	tgt	agg	gcc	gcc	gtg	aag	tct	gtc	acg		1750			
	Asn	Arg	Phe	Asn	Arg	Arg	Arg	Cys	Arg	Ala	Ala	Val	Lys	Ser	Val	Thr					
	530					535					540										
25	ttt	tac	tgg	ctg	gtt	atc	gtc	ctg	gtg	ttt	ctg	aac	acc	tta	acc	att		1798			
	Phe	Tyr	Trp	Leu	Val	Ile	Val	Leu	Val	Phe	Leu	Asn	Thr	Leu	Thr	Ile					
	545					550					555					560					
30	tcc	tct	gag	cac	tac	aat	cag	cca	gat	tgg	ttg	aca	cag	att	caa	gat		1846			
	Ser	Ser	Glu	His	Tyr	Asn	Gln	Pro	Asp	Trp	Leu	Thr	Gln	Ile	Gln	Asp					
	565					570					575										
35	att	gcc	aac	aaa	gtc	ctc	ttg	gct	ctg	ttc	acc	tgc	gag	atg	ctg	gta		1894			
	Ile	Ala	Asn	Lys	Val	Leu	Leu	Ala	Leu	Phe	Thr	Cys	Glu	Met	Leu	Val					
	580					585					590										
40	aaa	atg	tac	agc	ttg	ggc	ctc	caa	gca	tat	ttc	gtc	tct	ctt	ttc	aac		1942			
	Lys	Met	Tyr	Ser	Leu	Gly	Leu	Gln	Ala	Tyr	Phe	Val	Ser	Leu	Phe	Asn					
	595					600					605										
45	cgg	ttt	gat	tgc	ttc	gtg	gtg	tgt	ggt	gga	atc	act	gag	acg	atc	ctg		1990			
	Arg	Phe	Asp	Cys	Phe	Val	Val	Cys	Gly	Gly	Ile	Thr	Glu	Thr	Ile	Leu					
	610					615					620										
50	gtg	gaa	ctg	gaa	atc	atg	tct	ccc	ctg	ggg	atc	tct	gtg	ttt	cgg	tgt		2038			
	Val	Glu	Leu	Glu	Ile	Met	Ser	Pro	Leu	Gly	Ile	Ser	Val	Phe	Arg	Cys					
	625					630					635					640					
55	gtg	cgc	ctc	tta	aga	atc	ttc	aaa	gtg	acc	agg	cac	tgg	act	tcc	ctg		2086			
	Val	Arg	Leu	Leu	Arg	Ile	Phe	Lys	Val	Thr	Arg	His	Trp	Thr	Ser	Leu					
	645					650					655										
60	agc	aac	tta	gtg	gca	tcc	tta	tta	aac	tcc	atg	aag	tcc	atc	gct	tcg		2134			
	Ser	Asn	Leu	Val	Ala	Ser	Leu	Leu	Asn	Ser	Met	Lys	Ser	Ile	Ala	Ser					
	660					665					670										
65	ctg	ttg	ctt	ctg	ctt	ttt	ctc	ttc	att	atc	atc	ttt	tcc	ttg	ctt	ggg		2182			
	Leu	Leu	Leu	Leu	Leu	Phe	Leu	Phe	Ile	Ile	Ile	Phe	Ser	Leu	Leu	Gly					
	675					680					685										
70	atg	cag	ctg	ttt	ggc	ggc	aag	ttt	aat	ttt	gat	gaa	acg	caa	acc	aag		2230			
	Met	Gln	Leu	Phe	Gly	Gly	Lys	Phe	Asn	Phe	Asp	Glu	Thr	Gln	Thr	Lys					
	690					695					700										
75	cgg	agc	acc	ttt	gac	aat	ttc	cct	caa	gca	ctt	ctc	aca	gtg	ttc	cag		2278			
	Arg	Ser	Thr	Phe	Asp	Asn	Phe	Pro	Gln	Ala	Leu	Leu	Thr	Val	Phe	Gln					
	705					710					715					720					
80	atc	ctg	aca	ggc	gaa	gac	tgg	aat	gct	gtg	atg	tac	gat	ggc	atc	atg		2326			
	Ile	Leu	Thr	Gly	Glu	Asp	Trp	Asn	Ala	Val	Met	Tyr	Asp	Gly	Ile	Met					

	725								730				735					
5	gct	tac	ggg	ggc	cca	tcc	tct	tca	gga	atg	atc	gtc	tgc	atc	tac	ttc	2374	
	Ala	Tyr	Gly	Gly	Pro	Ser	Ser	Ser	Gly	Met	Ile	Val	Cys	Ile	Tyr	Phe		
10				740					745					750				
	atc	atc	ctc	ttc	att	tgt	ggt	aac	tat	att	cta	ctg	aat	gtc	ttc	ttg	2422	
	Ile	Ile	Leu	Phe	Ile	Cys	Gly	Asn	Tyr	Ile	Leu	Leu	Asn	Val	Phe	Leu		
15				755				760					765					
	gcc	atc	gct	gta	gac	aat	ttg	gct	gat	gct	gaa	agt	ctg	aac	act	gct	2470	
	Ala	Ile	Ala	Val	Asp	Asn	Leu	Ala	Asp	Ala	Glu	Ser	Leu	Asn	Thr	Ala		
20				770				775					780					
	cag	aaa	gaa	gaa	gcg	gaa	gaa	aag	gag	agg	aaa	aag	att	gcc	aga	aaa	2518	
	Gln	Lys	Glu	Glu	Ala	Glu	Glu	Lys	Glu	Arg	Lys	Lys	Ile	Ala	Arg	Lys		
25						790							795			800		
	gag	agc	cta	gaa	aat	aaa	aag	aac	aac	aaa	cca	gaa	gtc	aac	cag	ata	2566	
	Glu	Ser	Leu	Glu	Asn	Lys	Lys	Asn	Asn	Lys	Pro	Glu	Val	Asn	Gln	Ile		
30					805					810					815			
	gcc	aac	agt	gac	aac	aag	gtt	aca	att	gat	gac	tat	aga	gaa	gag	gat	2614	
	Ala	Asn	Ser	Asp	Asn	Lys	Val	Thr	Ile	Asp	Asp	Tyr	Arg	Glu	Glu	Asp		
35				820					825					830				
	gaa	gac	aag	gac	ccc	tat	ccg	cct	tgc	gat	gtg	cca	gta	ggg	gaa	gag	2662	
	Glu	Asp	Lys	Asp	Pro	Tyr	Pro	Pro	Cys	Asp	Val	Pro	Val	Gly	Glu	Glu		
40				835				840					845					
	gaa	gag	gaa	gag	gag	gag	gat	gaa	cct	gag	gtt	cct	gcc	gga	ccc	cgt	2710	
	Glu	Glu	Glu	Glu	Glu	Glu	Asp	Glu	Pro	Glu	Val	Pro	Ala	Gly	Pro	Arg		
45				850				855					860					
	cct	cga	agg	atc	tcg	gag	ttg	aac	atg	aag	gaa	aaa	att	gcc	ccc	atc	2758	
	Pro	Arg	Arg	Ile	Ser	Glu	Leu	Asn	Met	Lys	Glu	Lys	Ile	Ala	Pro	Ile		
50						870							875			880		
	cct	gaa	ggg	agc	gct	ttc	ttc	att	ctt	agc	aag	acc	aac	ccg	atc	cgc	2806	
	Pro	Glu	Gly	Ser	Ala	Phe	Phe	Ile	Leu	Ser	Lys	Thr	Asn	Pro	Ile	Arg		
55					885					890					895			
	gta	ggc	tgc	cac	aag	ctc	atc	aac	cac	cac	atc	ttc	acc	aac	ctc	atc	2854	
	Val	Gly	Cys	His	Lys	Leu	Ile	Asn	His	His	Ile	Phe	Thr	Asn	Leu	Ile		
60				900					905					910				
	ctt	gtc	ttc	atc	atg	ctg	agc	agc	gct	gcc	ctg	gcc	gca	gag	gac	ccc	2902	
	Leu	Val	Phe	Ile	Met	Leu	Ser	Ser	Ala	Ala	Leu	Ala	Ala	Glu	Asp	Pro		
65				915				920					925					
	atc	cgc	agc	cac	tcc	ttc	cgg	aac	acg	ata	ctg	ggt	tac	ttt	gac	tat	2950	
	Ile	Arg	Ser	His	Ser	Phe	Arg	Asn	Thr	Ile	Leu	Gly	Tyr	Phe	Asp	Tyr		
70						930							940					
	gcc	ttc	aca	gcc	atc	ttt	act	gtt	gag	atc	ctg	ttg	aag	atg	aca	act	2998	
	Ala	Phe	Thr	Ala	Ile	Phe	Thr	Val	Glu	Ile	Leu	Leu	Lys	Met	Thr	Thr		
75						950							955			960		
	ttt	gga	gct	ttc	ctc	cac	aaa	ggg	gcc	ttc	tgc	agg	aac	tac	ttc	aat	3046	
	Phe	Gly	Ala	Phe	Leu	His	Lys	Gly	Ala	Phe	Cys	Arg	Asn	Tyr	Phe	Asn		
80					965					970					975			
	ttg	ctg	gat	atg	ctg	gtg	gtt	ggg	gtg	tct	ctg	gtg	tca	ttt	ggg	att	3094	
	Leu	Leu	Asp	Met	Leu	Val	Val	Gly	Val	Ser	Leu	Val	Ser	Phe	Gly	Ile		

	980	985	990	
5	caa tcc agt gcc atc tcc gtt gtg Gln Ser Ser Ala Ile Ser Val Val 995 1000	aag att ctg agg gtc Lys Ile Leu Arg Val 1005	tta agg gtc Leu Arg Val	3142
10	ctg cgt ccc ctc agg gcc atc Leu Arg Pro Leu Arg Ala Ile 1010 1015	aac aga gca aaa gga Asn Arg Ala Lys Gly 1020	ctt aag cac Leu Lys His	3187
15	gtg gtc cag tgc gtc ttc gtg Val Val Gln Cys Val Phe Val 1025 1030	gcc atc cgg acc atc Ala Ile Arg Thr Ile 1035	ggc aac atc Gly Asn Ile	3232
20	atg atc gtc act acc ctc ctg Met Ile Val Thr Thr Leu Leu 1040 1045	cag ttc atg ttt gcc Gln Phe Met Phe Ala 1050	tgt atc ggg Cys Ile Gly	3277
25	gtc cag ttg ttc aag ggg aag Val Gln Leu Phe Lys Gly Lys 1055 1060	ttc tat cgc tgt acg Phe Tyr Arg Cys Thr 1065	gat gaa gcc Asp Glu Ala	3322
30	aaa agt aac cct gaa gaa tgc Lys Ser Asn Pro Glu Glu Cys 1070 1075	agg gga ctt ttc atc Arg Gly Leu Phe Ile 1080	ctc tac aag Leu Tyr Lys	3367
35	gat ggg gat gtt gac agt cct Asp Gly Asp Val Asp Ser Pro 1085 1090	gtg gtc cgt gaa cgg Val Val Arg Glu Arg 1095	atc tgg caa Ile Trp Gln	3412
40	aac agt gat ttc aac ttc gac Asn Ser Asp Phe Asn Phe Asp 1100 1105	aac gtc ctc tct gct Asn Val Leu Ser Ala 1110	atg atg gcg Met Met Ala	3457
45	ctc ttc aca gtc tcc acg ttt Leu Phe Thr Val Ser Thr Phe 1115 1120	gag ggc tgg cct gcg Glu Gly Trp Pro Ala 1125	ttg ctg tat Leu Leu Tyr	3502
50	aaa gcc atc gac tcg aat gga Lys Ala Ile Asp Ser Asn Gly 1130 1135	gag aac atc ggc cca Glu Asn Ile Gly Pro 1140	atc tac aac Ile Tyr Asn	3547
55	cac cgc gtg gag atc tcc atc His Arg Val Glu Ile Ser Ile 1145 1150	ttc ttc atc atc tac Phe Phe Ile Ile Tyr 1155	atc atc att Ile Ile Ile	3592
60	gta gct ttc ttc atg atg aac Val Ala Phe Phe Met Met Asn 1160 1165	atc ttt gtg ggc ttt Ile Phe Val Gly Phe 1170	gtc atc gtt Val Ile Val	3637
	aca ttt cag gaa caa gga gaa Thr Phe Gln Glu Gln Gly Glu 1175 1180	aaa gag tat aag aac Lys Glu Tyr Lys Asn 1185	tgt gag ctg Cys Glu Leu	3682
	gac aaa aat cag cgt cag tgt Asp Lys Asn Gln Arg Gln Cys 1190 1195	gtt gaa tac gcc ttg Val Glu Tyr Ala Leu 1200	aaa gca cgt Lys Ala Arg	3727
	ccc ttg cgg aga tac atc ccc Pro Leu Arg Arg Tyr Ile Pro 1205 1210	aaa aac ccc tac cag Lys Asn Pro Tyr Gln 1215	tac aag ttc Tyr Lys Phe	3772
	tggtac gtgtgt aac tct tcg Trp Tyr Val Val Asn Ser Ser 1215	cct ttc gaa tac atg Pro Phe Glu Tyr Met 1220	atg ttt gtc Met Phe Val	3817

	1220		1225		1230	
5	ctc atc atg ctc aac aca ctc tgc ttg gcc atg cag cac tac gag Leu Ile Met Leu Asn Thr Leu Cys Leu Ala Met Gln His Tyr Glu 1235 1240 1245	3862				
10	cag tcc aag atg ttc aat gat gcc atg gac att ctg aac atg gtc Gln Ser Lys Met Phe Asn Asp Ala Met Asp Ile Leu Asn Met Val 1250 1255 1260	3907				
	ttc acc ggg gtg ttc acc gtc gag atg gtt ttg aaa gtc atc gca Phe Thr Gly Val Phe Thr Val Glu Met Val Leu Lys Val Ile Ala 1265 1270 1275	3952				
15	ttt aag cct aag ggg tat ttt agt gac gcc tgg aac acg ttt gac Phe Lys Pro Lys Gly Tyr Phe Ser Asp Ala Trp Asn Thr Phe Asp 1280 1285 1290	3997				
20	tcc ctc atc gta atc ggc agc att ata gac gtg gcc ctc agc gaa Ser Leu Ile Val Ile Gly Ser Ile Ile Asp Val Ala Leu Ser Glu 1295 1300 1305	4042				
25	gcg gac cca act gaa agt gaa aat gtc cct gtc cca act gct aca Ala Asp Pro Thr Glu Ser Glu Asn Val Pro Val Pro Thr Ala Thr 1310 1315 1320	4087				
30	cct ggg aac tct gaa gag agc aat aga atc tcc atc acc ttt ttc Pro Gly Asn Ser Glu Glu Ser Asn Arg Ile Ser Ile Thr Phe Phe 1325 1330 1335	4132				
	cgt ctt ttc cga gtg atg cga ttg gtg aag ctt ctc agc agg ggg Arg Leu Phe Arg Val Met Arg Leu Val Lys Leu Leu Ser Arg Gly 1340 1345 1350	4177				
35	gaa ggc atc cgg aca ttg ctg tgg act ttt att aag tcc ttt cag Glu Gly Ile Arg Thr Leu Leu Trp Thr Phe Ile Lys Ser Phe Gln 1355 1360 1365	4222				
40	gcg ctc ccg tat gtg gcc ctc ctc ata gcc atg ctg ttc ttc atc Ala Leu Pro Tyr Val Ala Leu Leu Ile Ala Met Leu Phe Phe Ile 1370 1375 1380	4267				
45	tat gcg gtc att ggc atg cag atg ttt ggg aaa gtt gcc atg aga Tyr Ala Val Ile Gly Met Gln Met Phe Gly Lys Val Ala Met Arg 1385 1390 1395	4312				
50	gat aac aac cag atc aat agg aac aat aac ttc cag acg ttt ccc Asp Asn Asn Gln Ile Asn Arg Asn Asn Asn Phe Gln Thr Phe Pro 1400 1405 1410	4357				
	cag gcg gtg ctg ctg ctc ttc agg tgt gca aca ggt gag gcc tgg Gln Ala Val Leu Leu Leu Phe Arg Cys Ala Thr Gly Glu Ala Trp 1415 1420 1425	4402				
55	cag gag atc atg ctg gcc tgt ctc cca ggg aag ctc tgt gac cct Gln Glu Ile Met Leu Ala Cys Leu Pro Gly Lys Leu Cys Asp Pro 1430 1435 1440	4447				
60	gag tca gat tac aac ccc ggg gag gag tat aca tgt ggg agc aac Glu Ser Asp Tyr Asn Pro Gly Glu Glu Tyr Thr Cys Gly Ser Asn 1445 1450 1455	4492				
	ttt gcc att gtc tat ttc atc agt ttt tac atg ctc tgt gca ttt Phe Ala Ile Val Tyr Phe Ile Ser Phe Tyr Met Leu Cys Ala Phe 1455 1460 1465	4537				

	1460		1465		1470	
5	ctg atc atc aat ctg ttt gtg gct gtc atc atg gat aat ttc gac 4582 Leu Ile Ile Asn Leu Phe Val Ala Val Ile Met Asp Asn Phe Asp 1475 1480 1485					
10	tat ctg acc cgg gac tgg tct att ttg ggg cct cac cat tta gat 4627 Tyr Leu Thr Arg Asp Trp Ser Ile Leu Gly Pro His His Leu Asp 1490 1495 1500					
15	gaa ttc aaa aga ata tgg tca gaa tat gac cct gag gca aag gga 4672 Glu Phe Lys Arg Ile Trp Ser Glu Tyr Asp Pro Glu Ala Lys Gly 1505 1510 1515					
20	agg ata aaa cac ctt gat gtg gtc act ctg ctt cga cgc atc cag 4717 Arg Ile Lys His Leu Asp Val Val Thr Leu Leu Arg Arg Ile Gln 1520 1525 1530					
25	cct ccc ctg ggg ttt ggg aag tta tgt cca cac agg gta gcg tgc 4762 Pro Pro Leu Gly Phe Gly Lys Leu Cys Pro His Arg Val Ala Cys 1535 1540 1545					
30	aag aga tta gtt gcc atg aac atg cct ctc aac agt gac ggg aca 4807 Lys Arg Leu Val Ala Met Asn Met Pro Leu Asn Ser Asp Gly Thr 1550 1555 1560					
35	gtc atg ttt aat gca acc ctg ttt gct ttg gtt cga acg gct ctt 4852 Val Met Phe Asn Ala Thr Leu Phe Ala Leu Val Arg Thr Ala Leu 1565 1570 1575					
40	aag atc aag acc gaa ggg aac ctg gag caa gct aat gaa gaa ctt 4897 Lys Ile Lys Thr Glu Gly Asn Leu Glu Gln Ala Asn Glu Glu Leu 1580 1585 1590					
45	cgg gct gtg ata aag aaa att tgg aag aaa acc agc atg aaa tta 4942 Arg Ala Val Ile Lys Lys Ile Trp Lys Lys Thr Ser Met Lys Leu 1595 1600 1605					
50	ctt gac caa gtt gtc cct cca gct ggt gat gat gag gta acc gtg 4987 Leu Asp Gln Val Val Pro Pro Ala Gly Asp Asp Glu Val Thr Val 1610 1615 1620					
55	ggg aag ttc tat gcc act ttc ctg ata cag gac tac ttt agg aaa 5032 Gly Lys Phe Tyr Ala Thr Phe Leu Ile Gln Asp Tyr Phe Arg Lys 1625 1630 1635					
60	ttc aag aaa cgg aaa gaa caa gga ctg gtg gga aag tac cct gcg 5077 Phe Lys Lys Arg Lys Glu Gln Gly Leu Val Gly Lys Tyr Pro Ala 1640 1645 1650					
65	aag aac acc aca att gcc cta cag gcg gga tta agg aca ctg cat 5122 Lys Asn Thr Thr Ile Ala Leu Gln Ala Gly Leu Arg Thr Leu His 1655 1660 1665					
70	gac att ggg cca gaa atc cgg cgt gct ata tcg tgt gat ttg caa 5167 Asp Ile Gly Pro Glu Ile Arg Arg Ala Ile Ser Cys Asp Leu Gln 1670 1675 1680					
75	gat gac gag cct gag gaa aca aaa cga gaa gaa gaa gat gat gtg 5212 Asp Asp Glu Pro Glu Glu Thr Lys Arg Glu Glu Glu Asp Asp Val 1685 1690 1695					
80	ttc aaa aga aat ggt gcc ctg ctt gga aac cat gtc aat cat gtt 5257 Phe Lys Arg Asn Gly Ala Leu Leu Gly Asn His Val Asn His Val					

		1700				1705					1710						
		aat agt gat agg aga gat tcc ctt cag cag acc aat acc acc cac				5302											
5		Asn Ser 1715 Asp Arg Arg Asp Ser 1720 Leu Gln Gln Thr Asn 1725 Thr Thr His															
		cgt ccc ctg cat gtc caa agg cct tca att cca cct gca agt gat				5347											
10		Arg Pro 1730 Leu His Val Gln Arg 1735 Pro Ser Ile Pro Pro 1740 Ala Ser Asp															
		act gag aaa ccg ctg ttt cct cca gca gga aat tcg gtg tgt cat				5392											
		Thr Glu 1745 Lys Pro Leu Phe Pro 1750 Pro Ala Gly Asn Ser 1755 Val Cys His															
15		aac cat cat aac cat aat tcc ata gga aag caa gtt ccc acc tca				5437											
		Asn His 1760 His Asn His Asn Ser 1765 Ile Gly Lys Gln Val 1770 Pro Thr Ser															
20		aca aat gcc aat ctc aat aat gcc aat atg tcc aaa gct gcc cat				5482											
		Thr Asn 1775 Ala Asn Leu Asn Asn 1780 Ala Asn Met Ser Lys 1785 Ala Ala His															
25		gga aag cgg ccc agc att ggg aac ctt gag cat gtg tct gaa aat				5527											
		Gly Lys 1790 Arg Pro Ser Ile Gly 1795 Asn Leu Glu His Val 1800 Ser Glu Asn															
30		ggg cat cat tct tcc cac aag cat gac cgg gag cct cag aga agg				5572											
		Gly His 1805 His Ser Ser His Lys 1810 His Asp Arg Glu Pro 1815 Gln Arg Arg															
		tcc agt gtg aaa aga acc cgc tat tat gaa act tac att agg tcc				5617											
		Ser Ser 1820 Val Lys Arg Thr Arg 1825 Tyr Tyr Glu Thr Tyr 1830 Ile Arg Ser															
35		gac tca gga gat gaa cag ctc cca act att tgc cgg gaa gac cca				5662											
		Asp Ser 1835 Gly Asp Glu Gln Leu Pro Thr Ile Cys Arg 1845 Glu Asp Pro															
40		gag ata cat ggc tat ttc agg gac ccc cac tgc ttg ggg gag cag				5707											
		Glu Ile 1850 His Gly Tyr Phe Arg 1855 Asp Pro His Cys Leu 1860 Gly Glu Gln															
45		gag tat ttc agt agt gag gaa tgc tac gag gat gac agc tcg ccc				5752											
		Glu Tyr 1865 Phe Ser Ser Glu Glu 1870 Cys Tyr Glu Asp Asp 1875 Ser Ser Pro															
50		acc tgg agc agg caa aac tat ggc tac tac agc aga tac cca ggc				5797											
		Thr Trp 1880 Ser Arg Gln Asn Tyr 1885 Gly Tyr Tyr Ser Arg 1890 Tyr Pro Gly															
		aga aac atc gac tct gag agg ccc cga ggc tac cat cat ccc caa				5842											
		Arg Asn 1895 Ile Asp Ser Glu Arg 1900 Pro Arg Gly Tyr His 1905 His Pro Gln															
55		gga ttc ttg gag gac gat gac tcg ccc gtt tgc tat gat tca cgg				5887											
		Gly Phe 1910 Leu Glu Asp Asp Asp 1915 Ser Pro Val Cys Tyr 1920 Asp Ser Arg															
60		aga tct cca agg aga cgc cta cta cct ccc acc cca gca tcc cac				5932											
		Arg Ser 1925 Pro Arg Arg Arg Leu 1930 Leu Pro Pro Thr Pro 1935 Ala Ser His															
		cgg aga tcc tcc ttc aac ttt gag tgc ctg cgc cgg cag agc agc				5977											
		Arg Arg Ser Ser Phe Asn Phe Glu Cys Leu Arg Arg Gln Ser Ser															

	1940	1945	1950	
5	cag gaa gag gtc ccg tcg tct Gln Glu Glu Val Pro Ser Ser 1955	ccc atc ttc ccc cat Pro Ile Phe Pro His 1960	cgc acg gcc Arg Thr Ala 1965	6022
10	ctg cct ctg cat cta atg cag Leu Pro Leu His Leu Met Gln 1970	caa cag atc atg gca Gln Gln Ile Met Ala 1975	gtt gcc ggc Val Ala Gly 1980	6067
15	cta gat tca agt aaa gcc cag Leu Asp Ser Ser Lys Ala Gln 1985	aag tac tca ccg agt Lys Tyr Ser Pro Ser 1990	cac tcg acc His Ser Thr 1995	6112
20	cgg tcg tgg gcc acc cct cca Arg Ser Trp Ala Thr Pro Pro 2000	gca acc cct ccc tac Ala Thr Pro Pro Tyr 2005	cgc gac tgg Arg Asp Trp 2010	6157
25	aca ccg tgc tac acc ccc ctg Thr Pro Cys Tyr Thr Pro Leu 2015	atc caa gtg gag cag Ile Gln Val Glu Gln 2020	tca gag gcc Ser Glu Ala 2025	6202
30	ctg gac cag gtg aac ggc agc Leu Asp Gln Val Asn Gly Ser 2030	ctg ccg tcc ctg cac Leu Pro Ser Leu His 2035	cgc agc tcc Arg Ser Ser 2040	6247
35	tgg tac aca gac gag ccc gac Trp Tyr Thr Asp Glu Pro Asp 2045	atc tcc tac cgg act Ile Ser Tyr Arg Thr 2050	ttc aca cca Phe Thr Pro 2055	6292
40	gcc agc ctg act gtc ccc agc Ala Ser Leu Thr Val Pro Ser 2060	agc ttc cgg aac aaa Ser Phe Arg Asn Lys 2065	aac agc gac Asn Ser Asp 2070	6337
45	aag cag agg agt gcg gac agc Lys Gln Arg Ser Ala Asp Ser 2075	ttg gtg gag gca gtc Leu Val Glu Ala Val 2080	ctg ata tcc Leu Ile Ser 2085	6382
50	gaa ggc ttg gga cgc tat gca Glu Gly Leu Gly Arg Tyr Ala 2090	agg gac cca aaa ttt Arg Asp Pro Lys Phe 2095	gtg tca gca Val Ser Ala 2100	6427
55	aca aaa cac gaa atc gct gat Thr Lys His Glu Ile Ala Asp 2105	gcc tgt gac ctc acc Ala Cys Asp Leu Thr 2110	atc gac gag Ile Asp Glu 2115	6472
60	atg gag agt gca gcc agc acc Met Glu Ser Ala Ala Ser Thr 2120	ctg ctt aat ggg aac Leu Leu Asn Gly Asn 2125	gtg cgt ccc Val Arg Pro 2130	6517
65	cga gcc aac ggg gat gtg ggc Arg Ala Asn Gly Asp Val Gly 2135	ccc ctc tca cac cgg Pro Leu Ser His Arg 2140	cag gac tat Gln Asp Tyr 2145	6562
70	gag cta cag gac ttt ggt cct Glu Leu Gln Asp Phe Gly Pro 2150	ggc tac agc gac gaa Gly Tyr Ser Asp Glu 2155	gag cca gac Glu Pro Asp 2160	6607
75	cct ggg agg gat gag gag gac Pro Gly Arg Asp Glu Glu Asp 2165	ctg gcg gat gaa atg Leu Ala Asp Glu Met 2170	ata tgc atc Ile Cys Ile 2175	6652
80	acc acc ttg tag ccccccagcga Thr Thr Leu	ggggcagact ggctctggcc	tcaggtgggg	6704



2180

cgcaggagag ccaggggaaa agtgcctcat agttaggaaa gtttaggcac tagttgggag 6764  
 5 taatattcaa ttaattagac ttttgtataa gagatgtcat gcctcaagaa agccataaac 6824  
 ctggtaggaa caggtcccaa gcggttgagc ctggcagagt accatgcgct cggccccagc 6884  
 tgcaggaaac agcaggcccc gccctctcac agaggatggg tgaggaggcc agacctgccc 6944  
 10 tgccccattg tccagatggg cactgctgtg gagtctgctt ctcccatgta ccagggcacc 7004  
 aggccacccc aactgaaggc atggcggcgg ggtgcagggg aaagttaaag gtgatgacga 7064  
 15 tcatcacacc tcgtgtcgtt acctcagcca tcggtctagc atatcagtca ctgggcccac 7124  
 catatccatt tttaaacctt ttcccccaaa tacactgcgt cctgggttctt gtttagctgt 7184  
 tctgaaata 7193  
 20

<210> 20  
 <211> 2181  
 25 <212> PRT  
 <213> Homo sapiens  
 <400> 20

30 Met Met Met Met Met Met Met Lys Lys Met Gln His Gln Arg Gln Gln  
 1 5 10 15  
 Gln Ala Asp His Ala Asn Glu Ala Asn Tyr Ala Arg Gly Thr Arg Leu  
 20 25 30  
 35 Pro Leu Ser Gly Glu Gly Pro Thr Ser Gln Pro Asn Ser Ser Lys Gln  
 35 40 45  
 Thr Val Leu Ser Trp Gln Ala Ala Ile Asp Ala Ala Arg Gln Ala Lys  
 50 55 60  
 Ala Ala Gln Thr Met Ser Thr Ser Ala Pro Pro Pro Val Gly Ser Leu  
 65 70 75 80  
 45 Ser Gln Arg Lys Arg Gln Gln Tyr Ala Lys Ser Lys Lys Gln Gly Asn  
 85 90 95  
 Ser Ser Asn Ser Arg Pro Ala Arg Ala Leu Phe Cys Leu Ser Leu Asn  
 100 105 110  
 50 Asn Pro Ile Arg Arg Ala Cys Ile Ser Ile Val Glu Trp Lys Pro Phe  
 115 120 125  
 Asp Ile Phe Ile Leu Leu Ala Ile Phe Ala Asn Cys Val Ala Leu Ala  
 130 135 140  
 Ile Tyr Ile Pro Phe Pro Glu Asp Asp Ser Asn Ser Thr Asn His Asn  
 145 150 155 160  
 60 Leu Glu Lys Val Glu Tyr Ala Phe Leu Ile Ile Phe Thr Val Glu Thr  
 165 170 175  
 Phe Leu Lys Ile Ile Ala Tyr Gly Leu Leu Leu His Pro Asn Ala Tyr  
 180 185 190

	Val	Arg	Asn	Gly	Trp	Asn	Leu	Leu	Asp	Phe	Val	Ile	Val	Ile	Val	Gly	
			195					200					205				
5	Leu	Phe	Ser	Val	Ile	Leu	Glu	Gln	Leu	Thr	Lys	Glu	Thr	Glu	Gly	Gly	
		210					215					220					
	Asn	His	Ser	Ser	Gly	Lys	Ser	Gly	Gly	Phe	Asp	Val	Lys	Ala	Leu	Arg	
	225					230					235					240	
10	Ala	Phe	Arg	Val	Leu	Arg	Pro	Leu	Arg	Leu	Val	Ser	Gly	Val	Pro	Ser	
					245					250					255		
	Leu	Gln	Val	Val	Leu	Asn	Ser	Ile	Ile	Lys	Ala	Met	Val	Pro	Leu	Leu	
15				260					265					270			
	His	Ile	Ala	Leu	Leu	Val	Leu	Phe	Val	Ile	Ile	Ile	Tyr	Ala	Ile	Ile	
		275						280					285				
20	Gly	Leu	Glu	Leu	Phe	Ile	Gly	Lys	Met	His	Lys	Thr	Cys	Phe	Phe	Ala	
		290					295					300					
	Asp	Ser	Asp	Ile	Val	Ala	Glu	Glu	Asp	Pro	Ala	Pro	Cys	Ala	Phe	Ser	
	305					310					315					320	
25	Gly	Asn	Gly	Arg	Gln	Cys	Thr	Ala	Asn	Gly	Thr	Glu	Cys	Arg	Ser	Gly	
					325					330					335		
	Trp	Val	Gly	Pro	Asn	Gly	Gly	Ile	Thr	Asn	Phe	Asp	Asn	Phe	Ala	Phe	
30				340					345					350			
	Ala	Met	Leu	Thr	Val	Phe	Gln	Cys	Ile	Thr	Met	Glu	Gly	Trp	Thr	Asp	
		355						360					365				
35	Val	Leu	Tyr	Trp	Val	Asn	Asp	Ala	Ile	Gly	Trp	Glu	Trp	Pro	Trp	Val	
		370					375					380					
	Tyr	Phe	Val	Ser	Leu	Ile	Ile	Leu	Gly	Ser	Phe	Phe	Val	Leu	Asn	Leu	
	385					390					395					400	
40	Val	Leu	Gly	Val	Leu	Ser	Gly	Glu	Phe	Ser	Lys	Glu	Arg	Glu	Lys	Ala	
				405						410					415		
	Lys	Ala	Arg	Gly	Asp	Phe	Gln	Lys	Leu	Arg	Glu	Lys	Gln	Gln	Leu	Glu	
45				420					425					430			
	Glu	Asp	Leu	Lys	Gly	Tyr	Leu	Asp	Trp	Ile	Thr	Gln	Ala	Glu	Asp	Ile	
		435						440					445				
50	Asp	Pro	Glu	Asn	Glu	Glu	Glu	Gly	Gly	Glu	Glu	Gly	Lys	Arg	Asn	Thr	
		450					455					460					
	Ser	Met	Pro	Thr	Ser	Glu	Thr	Glu	Ser	Val	Asn	Thr	Glu	Asn	Val	Ser	
	465					470					475					480	
55	Gly	Glu	Gly	Glu	Asn	Arg	Gly	Cys	Cys	Gly	Ser	Leu	Trp	Cys	Trp	Trp	
					485					490					495		
	Arg	Arg	Arg	Gly	Ala	Ala	Lys	Ala	Gly	Pro	Ser	Gly	Cys	Arg	Arg	Trp	
60				500					505					510			
	Gly	Gln	Ala	Ile	Ser	Lys	Ser	Lys	Leu	Ser	Arg	Arg	Trp	Arg	Arg	Trp	
		515						520					525				

	Asn	Arg	Phe	Asn	Arg	Arg	Arg	Cys	Arg	Ala	Ala	Val	Lys	Ser	Val	Thr	
	530						535					540					
5	Phe	Tyr	Trp	Leu	Val	Ile	Val	Leu	Val	Phe	Leu	Asn	Thr	Leu	Thr	Ile	
	545					550					555					560	
	Ser	Ser	Glu	His	Tyr	Asn	Gln	Pro	Asp	Trp	Leu	Thr	Gln	Ile	Gln	Asp	
					565					570					575		
10	Ile	Ala	Asn	Lys	Val	Leu	Leu	Ala	Leu	Phe	Thr	Cys	Glu	Met	Leu	Val	
				580					585					590			
	Lys	Met	Tyr	Ser	Leu	Gly	Leu	Gln	Ala	Tyr	Phe	Val	Ser	Leu	Phe	Asn	
15			595					600					605				
	Arg	Phe	Asp	Cys	Phe	Val	Val	Cys	Gly	Gly	Ile	Thr	Glu	Thr	Ile	Leu	
	610						615					620					
20	Val	Glu	Leu	Glu	Ile	Met	Ser	Pro	Leu	Gly	Ile	Ser	Val	Phe	Arg	Cys	
	625					630					635					640	
	Val	Arg	Leu	Leu	Arg	Ile	Phe	Lys	Val	Thr	Arg	His	Trp	Thr	Ser	Leu	
25					645					650					655		
	Ser	Asn	Leu	Val	Ala	Ser	Leu	Leu	Asn	Ser	Met	Lys	Ser	Ile	Ala	Ser	
				660					665					670			
30	Leu	Leu	Leu	Leu	Leu	Phe	Leu	Phe	Ile	Ile	Ile	Phe	Ser	Leu	Leu	Gly	
			675					680					685				
	Met	Gln	Leu	Phe	Gly	Gly	Lys	Phe	Asn	Phe	Asp	Glu	Thr	Gln	Thr	Lys	
	690						695					700					
35	Arg	Ser	Thr	Phe	Asp	Asn	Phe	Pro	Gln	Ala	Leu	Leu	Thr	Val	Phe	Gln	
	705					710					715					720	
	Ile	Leu	Thr	Gly	Glu	Asp	Trp	Asn	Ala	Val	Met	Tyr	Asp	Gly	Ile	Met	
40				725						730					735		
	Ala	Tyr	Gly	Gly	Pro	Ser	Ser	Ser	Gly	Met	Ile	Val	Cys	Ile	Tyr	Phe	
				740					745					750			
45	Ile	Ile	Leu	Phe	Ile	Cys	Gly	Asn	Tyr	Ile	Leu	Leu	Asn	Val	Phe	Leu	
			755					760					765				
	Ala	Ile	Ala	Val	Asp	Asn	Leu	Ala	Asp	Ala	Glu	Ser	Leu	Asn	Thr	Ala	
	770						775					780					
50	Gln	Lys	Glu	Glu	Ala	Glu	Glu	Lys	Glu	Arg	Lys	Lys	Ile	Ala	Arg	Lys	
	785					790					795					800	
	Glu	Ser	Leu	Glu	Asn	Lys	Lys	Asn	Asn	Lys	Pro	Glu	Val	Asn	Gln	Ile	
55					805					810					815		
	Ala	Asn	Ser	Asp	Asn	Lys	Val	Thr	Ile	Asp	Asp	Tyr	Arg	Glu	Glu	Asp	
				820					825					830			
60	Glu	Asp	Lys	Asp	Pro	Tyr	Pro	Pro	Cys	Asp	Val	Pro	Val	Gly	Glu	Glu	
			835					840					845				
	Glu	Glu	Glu	Glu	Glu	Glu	Asp	Glu	Pro	Glu	Val	Pro	Ala	Gly	Pro	Arg	
	850						855					860					

	Pro Arg Arg Ile Ser Glu Leu Asn Met Lys Glu Lys Ile Ala Pro Ile	865	870	875	880
5	Pro Glu Gly Ser Ala Phe Phe Ile Leu Ser Lys Thr Asn Pro Ile Arg		885	890	895
	Val Gly Cys His Lys Leu Ile Asn His His Ile Phe Thr Asn Leu Ile		900	905	910
10	Leu Val Phe Ile Met Leu Ser Ser Ala Ala Leu Ala Ala Glu Asp Pro		915	920	925
	Ile Arg Ser His Ser Phe Arg Asn Thr Ile Leu Gly Tyr Phe Asp Tyr		930	935	940
15	Ala Phe Thr Ala Ile Phe Thr Val Glu Ile Leu Leu Lys Met Thr Thr		945	950	955
	Phe Gly Ala Phe Leu His Lys Gly Ala Phe Cys Arg Asn Tyr Phe Asn		965	970	975
20	Leu Leu Asp Met Leu Val Val Gly Val Ser Leu Val Ser Phe Gly Ile		980	985	990
	Gln Ser Ser Ala Ile Ser Val Val Lys Ile Leu Arg Val Leu Arg Val		995	1000	1005
30	Leu Arg Pro Leu Arg Ala Ile Asn Arg Ala Lys Gly Leu Lys His		1010	1015	1020
	Val Val Gln Cys Val Phe Val Ala Ile Arg Thr Ile Gly Asn Ile		1025	1030	1035
35	Met Ile Val Thr Thr Leu Leu Gln Phe Met Phe Ala Cys Ile Gly		1040	1045	1050
	Val Gln Leu Phe Lys Gly Lys Phe Tyr Arg Cys Thr Asp Glu Ala		1055	1060	1065
40	Lys Ser Asn Pro Glu Glu Cys Arg Gly Leu Phe Ile Leu Tyr Lys		1070	1075	1080
	Asp Gly Asp Val Asp Ser Pro Val Val Arg Glu Arg Ile Trp Gln		1085	1090	1095
45	Asn Ser Asp Phe Asn Phe Asp Asn Val Leu Ser Ala Met Met Ala		1100	1105	1110
50	Leu Phe Thr Val Ser Thr Phe Glu Gly Trp Pro Ala Leu Leu Tyr		1115	1120	1125
	Lys Ala Ile Asp Ser Asn Gly Glu Asn Ile Gly Pro Ile Tyr Asn		1130	1135	1140
55	His Arg Val Glu Ile Ser Ile Phe Phe Ile Ile Tyr Ile Ile Ile		1145	1150	1155
60	Val Ala Phe Phe Met Met Asn Ile Phe Val Gly Phe Val Ile Val		1160	1165	1170
	Thr Phe Gln Glu Gln Gly Glu Lys Glu Tyr Lys Asn Cys Glu Leu		1175	1180	1185

	Asp	Lys	Asn	Gln	Arg	Gln	Cys	Val	Glu	Tyr	Ala	Leu	Lys	Ala	Arg
	1190						1195					1200			
5	Pro	Leu	Arg	Arg	Tyr	Ile	Pro	Lys	Asn	Pro	Tyr	Gln	Tyr	Lys	Phe
	1205						1210					1215			
	Trp	Tyr	Val	Val	Asn	Ser	Ser	Pro	Phe	Glu	Tyr	Met	Met	Phe	Val
	1220						1225					1230			
10	Leu	Ile	Met	Leu	Asn	Thr	Leu	Cys	Leu	Ala	Met	Gln	His	Tyr	Glu
	1235						1240					1245			
	Gln	Ser	Lys	Met	Phe	Asn	Asp	Ala	Met	Asp	Ile	Leu	Asn	Met	Val
15	1250						1255					1260			
	Phe	Thr	Gly	Val	Phe	Thr	Val	Glu	Met	Val	Leu	Lys	Val	Ile	Ala
	1265						1270					1275			
20	Phe	Lys	Pro	Lys	Gly	Tyr	Phe	Ser	Asp	Ala	Trp	Asn	Thr	Phe	Asp
	1280						1285					1290			
	Ser	Leu	Ile	Val	Ile	Gly	Ser	Ile	Ile	Asp	Val	Ala	Leu	Ser	Glu
25	1295						1300					1305			
	Ala	Asp	Pro	Thr	Glu	Ser	Glu	Asn	Val	Pro	Val	Pro	Thr	Ala	Thr
	1310						1315					1320			
30	Pro	Gly	Asn	Ser	Glu	Glu	Ser	Asn	Arg	Ile	Ser	Ile	Thr	Phe	Phe
	1325						1330					1335			
	Arg	Leu	Phe	Arg	Val	Met	Arg	Leu	Val	Lys	Leu	Leu	Ser	Arg	Gly
35	1340						1345					1350			
	Glu	Gly	Ile	Arg	Thr	Leu	Leu	Trp	Thr	Phe	Ile	Lys	Ser	Phe	Gln
	1355						1360					1365			
	Ala	Leu	Pro	Tyr	Val	Ala	Leu	Leu	Ile	Ala	Met	Leu	Phe	Phe	Ile
40	1370						1375					1380			
	Tyr	Ala	Val	Ile	Gly	Met	Gln	Met	Phe	Gly	Lys	Val	Ala	Met	Arg
	1385						1390					1395			
45	Asp	Asn	Asn	Gln	Ile	Asn	Arg	Asn	Asn	Asn	Phe	Gln	Thr	Phe	Pro
	1400						1405					1410			
	Gln	Ala	Val	Leu	Leu	Leu	Phe	Arg	Cys	Ala	Thr	Gly	Glu	Ala	Trp
50	1415						1420					1425			
	Gln	Glu	Ile	Met	Leu	Ala	Cys	Leu	Pro	Gly	Lys	Leu	Cys	Asp	Pro
	1430						1435					1440			
	Glu	Ser	Asp	Tyr	Asn	Pro	Gly	Glu	Glu	Tyr	Thr	Cys	Gly	Ser	Asn
55	1445						1450					1455			
	Phe	Ala	Ile	Val	Tyr	Phe	Ile	Ser	Phe	Tyr	Met	Leu	Cys	Ala	Phe
	1460						1465					1470			
60	Leu	Ile	Ile	Asn	Leu	Phe	Val	Ala	Val	Ile	Met	Asp	Asn	Phe	Asp
	1475						1480					1485			
	Tyr	Leu	Thr	Arg	Asp	Trp	Ser	Ile	Leu	Gly	Pro	His	His	Leu	Asp
	1490						1495					1500			

	Glu	Phe	Lys	Arg	Ile	Trp	Ser	Glu	Tyr	Asp	Pro	Glu	Ala	Lys	Gly
	1505						1510					1515			
5	Arg	Ile	Lys	His	Leu	Asp	Val	Val	Thr	Leu	Leu	Arg	Arg	Ile	Gln
	1520						1525					1530			
	Pro	Pro	Leu	Gly	Phe	Gly	Lys	Leu	Cys	Pro	His	Arg	Val	Ala	Cys
10	1535						1540					1545			
	Lys	Arg	Leu	Val	Ala	Met	Asn	Met	Pro	Leu	Asn	Ser	Asp	Gly	Thr
	1550						1555					1560			
	Val	Met	Phe	Asn	Ala	Thr	Leu	Phe	Ala	Leu	Val	Arg	Thr	Ala	Leu
15	1565						1570					1575			
	Lys	Ile	Lys	Thr	Glu	Gly	Asn	Leu	Glu	Gln	Ala	Asn	Glu	Glu	Leu
	1580						1585					1590			
20	Arg	Ala	Val	Ile	Lys	Lys	Ile	Trp	Lys	Lys	Thr	Ser	Met	Lys	Leu
	1595						1600					1605			
	Leu	Asp	Gln	Val	Val	Pro	Pro	Ala	Gly	Asp	Asp	Glu	Val	Thr	Val
25	1610						1615					1620			
	Gly	Lys	Phe	Tyr	Ala	Thr	Phe	Leu	Ile	Gln	Asp	Tyr	Phe	Arg	Lys
	1625						1630					1635			
30	Phe	Lys	Lys	Arg	Lys	Glu	Gln	Gly	Leu	Val	Gly	Lys	Tyr	Pro	Ala
	1640						1645					1650			
	Lys	Asn	Thr	Thr	Ile	Ala	Leu	Gln	Ala	Gly	Leu	Arg	Thr	Leu	His
35	1655						1660					1665			
	Asp	Ile	Gly	Pro	Glu	Ile	Arg	Arg	Ala	Ile	Ser	Cys	Asp	Leu	Gln
	1670						1675					1680			
	Asp	Asp	Glu	Pro	Glu	Glu	Thr	Lys	Arg	Glu	Glu	Glu	Asp	Asp	Val
40	1685						1690					1695			
	Phe	Lys	Arg	Asn	Gly	Ala	Leu	Leu	Gly	Asn	His	Val	Asn	His	Val
	1700						1705					1710			
45	Asn	Ser	Asp	Arg	Arg	Asp	Ser	Leu	Gln	Gln	Thr	Asn	Thr	Thr	His
	1715						1720					1725			
	Arg	Pro	Leu	His	Val	Gln	Arg	Pro	Ser	Ile	Pro	Pro	Ala	Ser	Asp
50	1730						1735					1740			
	Thr	Glu	Lys	Pro	Leu	Phe	Pro	Pro	Ala	Gly	Asn	Ser	Val	Cys	His
	1745						1750					1755			
	Asn	His	His	Asn	His	Asn	Ser	Ile	Gly	Lys	Gln	Val	Pro	Thr	Ser
55	1760						1765					1770			
	Thr	Asn	Ala	Asn	Leu	Asn	Asn	Ala	Asn	Met	Ser	Lys	Ala	Ala	His
	1775						1780					1785			
60	Gly	Lys	Arg	Pro	Ser	Ile	Gly	Asn	Leu	Glu	His	Val	Ser	Glu	Asn
	1790						1795					1800			
	Gly	His	His	Ser	Ser	His	Lys	His	Asp	Arg	Glu	Pro	Gln	Arg	Arg
	1805						1810					1815			

	Ser	Ser	Val	Lys	Arg	Thr	Arg	Tyr	Tyr	Glu	Thr	Tyr	Ile	Arg	Ser
	1820						1825					1830			
5	Asp	Ser	Gly	Asp	Glu	Gln	Leu	Pro	Thr	Ile	Cys	Arg	Glu	Asp	Pro
	1835						1840					1845			
	Glu	Ile	His	Gly	Tyr	Phe	Arg	Asp	Pro	His	Cys	Leu	Gly	Glu	Gln
	1850						1855					1860			
10	Glu	Tyr	Phe	Ser	Ser	Glu	Glu	Cys	Tyr	Glu	Asp	Asp	Ser	Ser	Pro
	1865						1870					1875			
	Thr	Trp	Ser	Arg	Gln	Asn	Tyr	Gly	Tyr	Tyr	Ser	Arg	Tyr	Pro	Gly
15	1880						1885					1890			
	Arg	Asn	Ile	Asp	Ser	Glu	Arg	Pro	Arg	Gly	Tyr	His	His	Pro	Gln
	1895						1900					1905			
20	Gly	Phe	Leu	Glu	Asp	Asp	Asp	Ser	Pro	Val	Cys	Tyr	Asp	Ser	Arg
	1910						1915					1920			
	Arg	Ser	Pro	Arg	Arg	Arg	Leu	Leu	Pro	Pro	Thr	Pro	Ala	Ser	His
25	1925						1930					1935			
	Arg	Arg	Ser	Ser	Phe	Asn	Phe	Glu	Cys	Leu	Arg	Arg	Gln	Ser	Ser
	1940						1945					1950			
30	Gln	Glu	Glu	Val	Pro	Ser	Ser	Pro	Ile	Phe	Pro	His	Arg	Thr	Ala
	1955						1960					1965			
	Leu	Pro	Leu	His	Leu	Met	Gln	Gln	Gln	Ile	Met	Ala	Val	Ala	Gly
	1970						1975					1980			
35	Leu	Asp	Ser	Ser	Lys	Ala	Gln	Lys	Tyr	Ser	Pro	Ser	His	Ser	Thr
	1985						1990					1995			
	Arg	Ser	Trp	Ala	Thr	Pro	Pro	Ala	Thr	Pro	Pro	Tyr	Arg	Asp	Trp
40	2000						2005					2010			
	Thr	Pro	Cys	Tyr	Thr	Pro	Leu	Ile	Gln	Val	Glu	Gln	Ser	Glu	Ala
	2015						2020					2025			
45	Leu	Asp	Gln	Val	Asn	Gly	Ser	Leu	Pro	Ser	Leu	His	Arg	Ser	Ser
	2030						2035					2040			
	Trp	Tyr	Thr	Asp	Glu	Pro	Asp	Ile	Ser	Tyr	Arg	Thr	Phe	Thr	Pro
	2045						2050					2055			
50	Ala	Ser	Leu	Thr	Val	Pro	Ser	Ser	Phe	Arg	Asn	Lys	Asn	Ser	Asp
	2060						2065					2070			
	Lys	Gln	Arg	Ser	Ala	Asp	Ser	Leu	Val	Glu	Ala	Val	Leu	Ile	Ser
55	2075						2080					2085			
	Glu	Gly	Leu	Gly	Arg	Tyr	Ala	Arg	Asp	Pro	Lys	Phe	Val	Ser	Ala
	2090						2095					2100			
60	Thr	Lys	His	Glu	Ile	Ala	Asp	Ala	Cys	Asp	Leu	Thr	Ile	Asp	Glu
	2105						2110					2115			
	Met	Glu	Ser	Ala	Ala	Ser	Thr	Leu	Leu	Asn	Gly	Asn	Val	Arg	Pro
	2120						2125					2130			

	Arg	Ala	Asn	Gly	Asp	Val	Gly	Pro	Leu	Ser	His	Arg	Gln	Asp	Tyr	
	2135						2140					2145				
5	Glu	Leu	Gln	Asp	Phe	Gly	Pro	Gly	Tyr	Ser	Asp	Glu	Glu	Pro	Asp	
	2150						2155					2160				
	Pro	Gly	Arg	Asp	Glu	Glu	Asp	Leu	Ala	Asp	Glu	Met	Ile	Cys	Ile	
10	2165						2170					2175				
	Thr	Thr	Leu													
	2180															
15	<210>	21														
	<211>	6083														
	<212>	DNA														
	<213>	Oryctolagus cuniculus														
20	<220>															
	<221>	gene														
	<222>	(1) .. (6083)														
25	<220>															
	<221>	CDS														
	<222>	(226) .. (5847)														
	<400>	21														
30	ttccacctac	atgttggcct	ggacagcagg	gagccgaggg	gaggctaatt	ttactgctgg										60
	gagcagctag	cataatcctc	ccgccccccac	cccgcctggct	cagcaggggca	ggcttcgccc										120
	ggcaagctca	gcggcccagt	ccccaaggcg	gggaacactg	gggacgcagg	gaagagaggg										180
35	ccgcgggggtg	ggggagcagc	aggaagcgcc	gtggccaggg	aagcc atg	gag cca tcc										237
					Met	Glu Pro Ser										
					1											
40	tca ccc cag gat gag ggc ctg agg aag aaa cag ccc aag aag ccc ctg															285
	Ser Pro Gln Asp Glu Gly Leu Arg Lys Lys Gln Pro Lys Lys Pro Leu															
	5 10 15 20															
45	ccc gag gtc ctg ccc agg ccg ccg cgg gct ctg ttc tgc ctg acc ctg															333
	Pro Glu Val Leu Pro Arg Pro Pro Arg Ala Leu Phe Cys Leu Thr Leu															
	25 30 35															
50	cag aac ccg ctg agg aag gcg tgc atc agc atc gtg gaa tgg aaa ccc															381
	Gln Asn Pro Leu Arg Lys Ala Cys Ile Ser Ile Val Glu Trp Lys Pro															
	40 45 50															
	ttc gag acc atc atc ctg ctc acc atc ttt gcc aac tgt gtg gcc ctg															429
	Phe Glu Thr Ile Ile Leu Leu Thr Ile Phe Ala Asn Cys Val Ala Leu															
	55 60 65															
55	gcc gtg tac ctg ccc atg ccc gag gat gac aac aac tcc ctg aac ctg															477
	Ala Val Tyr Leu Pro Met Pro Glu Asp Asp Asn Asn Ser Leu Asn Leu															
	70 75 80															
60	ggc ctg gag aag ctg gag tac ttc ttc ctc acc gtc ttc tcc atc gaa															525
	Gly Leu Glu Lys Leu Glu Tyr Phe Phe Leu Thr Val Phe Ser Ile Glu															
	85 90 95 100															



	gcc gcc atg aag atc atc gcc tac ggc ttc ctg ttc cac cag gac gcc	573
	Ala Ala Met Lys Ile Ile Ala Tyr Gly Phe Leu Phe His Gln Asp Ala	
	105 110 115	
5	tac ctg cgc agc ggc tgg aac gtg ctg gac ttc atc atc gtc ttc ctg	621
	Tyr Leu Arg Ser Gly Trp Asn Val Leu Asp Phe Ile Ile Val Phe Leu	
	120 125 130	
10	ggg gtc ttc acg gcg att ctg gaa cag gtc aac gtc atc cag agc aac	669
	Gly Val Phe Thr Ala Ile Leu Glu Gln Val Asn Val Ile Gln Ser Asn	
	135 140 145	
15	acg gcc ccg atg agc agc aaa gga gcc ggc ctg gac gtc aag gcc ctg	717
	Thr Ala Pro Met Ser Ser Lys Gly Ala Gly Leu Asp Val Lys Ala Leu	
	150 155 160	
20	agg gcc ttc cgt gtg ctc aga ccc ctc cgg ctg gtg tcg ggg gtg cct	765
	Arg Ala Phe Arg Val Leu Arg Pro Leu Arg Val Ser Gly Val Pro	
	165 170 175 180	
	agt ttg cag gtg gtc ctc aac tcc atc ttc aag gcc atg ctc ccc ctg	813
	Ser Leu Gln Val Val Leu Asn Ser Ile Phe Lys Ala Met Leu Pro Leu	
	185 190 195	
25	ttc cac atc gcc ctg ctc gtc ctc ttc atg gtc atc atc tac gcc atc	861
	Phe His Ile Ala Leu Leu Val Leu Phe Met Val Ile Ile Tyr Ala Ile	
	200 205 210	
30	atc ggg ctg gag ctc ttc aag ggc aag atg cac aag acc tgc tac tac	909
	Ile Gly Leu Glu Leu Phe Lys Gly Lys Met His Lys Thr Cys Tyr Tyr	
	215 220 225	
35	atc ggg aca gac atc gtg gcc aca gtg gag aat gag aag ccc tcg ccc	957
	Ile Gly Thr Asp Ile Val Ala Thr Val Glu Asn Glu Lys Pro Ser Pro	
	230 235 240	
40	tgc gct agg acg ggc tcg ggg cgc ccc tgc acc atc aac ggc agc gag	1005
	Cys Ala Arg Thr Gly Ser Gly Arg Pro Cys Thr Ile Asn Gly Ser Glu	
	245 250 255 260	
	tgc cgg ggc ggc tgg ccg ggg ccc aac cac ggc atc acg cac ttc gac	1053
	Cys Arg Gly Gly Trp Pro Gly Pro Asn His Gly Ile Thr His Phe Asp	
	265 270 275	
45	aac ttc ggc ttc tcc atg ctc acc gtg tac cag tgc atc acc atg gag	1101
	Asn Phe Gly Phe Ser Met Leu Thr Val Tyr Gln Cys Ile Thr Met Glu	
	280 285 290	
50	ggc tgg aca gat gtc ctc tac tgg gtc aac gat gcc atc ggg aac gag	1149
	Gly Trp Thr Asp Val Leu Tyr Trp Val Asn Asp Ala Ile Gly Asn Glu	
	295 300 305	
55	tgg ccc tgg atc tac ttt gtc act ctc atc ctg ctg ggg tcc ttc ttc	1197
	Trp Pro Trp Ile Tyr Phe Val Thr Leu Ile Leu Leu Gly Ser Phe Phe	
	310 315 320	
60	atc ctc aac ctg gtg ctg ggc gtc ctg agt ggg gaa ttc acc aag gag	1245
	Ile Leu Asn Leu Val Leu Gly Val Leu Ser Gly Glu Phe Thr Lys Glu	
	325 330 335 340	
	cgg gag aag gcc aag tcc agg gga acc ttc cag aag ctg cgg gag aag	1293
	Arg Glu Lys Ala Lys Ser Arg Gly Thr Phe Gln Lys Leu Arg Glu Lys	
	345 350 355	

	cag cag ctg gag gag gac ctt cgg ggc tac atg agc tgg atc acg cag	1341
	Gln Gln Leu Glu Glu Asp Leu Arg Gly Tyr Met Ser Trp Ile Thr Gln	
	360 365 370	
5	ggc gag gtc atg gac gtg gag gac ctg aga gaa gga aag ctg tcc ttg	1389
	Gly Glu Val Met Asp Val Glu Asp Leu Arg Glu Gly Lys Leu Ser Leu	
	375 380 385	
10	gaa gag gga ggc tcc gac acg gaa agc ctg tac gaa atc gag ggc ttg	1437
	Glu Glu Gly Gly Ser Asp Thr Glu Ser Leu Tyr Glu Ile Glu Gly Leu	
	390 395 400	
15	aac aaa atc atc cag ttc atc cga cac tgg agg cag tgg aac cgt gtc	1485
	Asn Lys Ile Ile Gln Phe Ile Arg His Trp Arg Gln Trp Asn Arg Val	
	405 410 415 420	
20	ttt cgc tgg aag tgc cat gac ctg gtg aag tcg aga gtc ttc tac tgg	1533
	Phe Arg Trp Lys Cys His Asp Leu Val Lys Ser Arg Val Phe Tyr Trp	
	425 430 435	
25	ctg gtc atc ctg atc gtg gcc ctc aac acc ctg tcc atc gcc tcg gag	1581
	Leu Val Ile Leu Ile Val Ala Leu Asn Thr Leu Ser Ile Ala Ser Glu	
	440 445 450	
	cac cac aac cag ccg ctc tgg ctg acc cac ttg caa gac atc gcc aat	1629
	His His Asn Gln Pro Leu Trp Leu Thr His Leu Gln Asp Ile Ala Asn	
	455 460 465	
30	cga gtg ctg ctg tca ctc ttc acc atc gag atg ctg ctg aag atg tac	1677
	Arg Val Leu Leu Ser Leu Phe Thr Ile Glu Met Leu Leu Lys Met Tyr	
	470 475 480	
35	ggg ctg ggc ctg cgc cag tac ttc atg tcc atc ttc aac cgc ttc gac	1725
	Gly Leu Gly Leu Arg Gln Tyr Phe Met Ser Ile Phe Asn Arg Phe Asp	
	485 490 495 500	
40	tgc ttc gtg gtg tgc agc ggc atc ctg gag ctg ctg ctg gtg gag tcg	1773
	Cys Phe Val Val Cys Ser Gly Ile Leu Glu Leu Leu Val Glu Ser	
	505 510 515	
45	ggc gcc atg acg ccg ctg ggc atc tcc gtg ttg cgc tgc atc cgc ctc	1821
	Gly Ala Met Thr Pro Leu Gly Ile Ser Val Leu Arg Cys Ile Arg Leu	
	520 525 530	
	ctg agg ctc ttc aag atc acc aag tac tgg acg tcg ctc agc aac ctg	1869
	Leu Arg Leu Phe Lys Ile Thr Lys Tyr Trp Thr Ser Leu Ser Asn Leu	
	535 540 545	
50	gtg gcc tcc ctg ctc aac tcc atc cgc tcc atc gcc tcg ctg ctg ctg	1917
	Val Ala Ser Leu Leu Asn Ser Ile Arg Ser Ile Ala Ser Leu Leu Leu	
	550 555 560	
55	ctg ctc ttc ctc ttc atc atc atc ttc gcc ctg ctg ggc atg cag ctc	1965
	Leu Leu Phe Leu Phe Ile Ile Ile Phe Ala Leu Leu Gly Met Gln Leu	
	565 570 575 580	
60	ttc ggg ggg cgg tac gac ttc gag gac acg gaa gtg cga cgc agc aac	2013
	Phe Gly Gly Arg Tyr Asp Phe Glu Asp Thr Glu Val Arg Arg Ser Asn	
	585 590 595	
	ttc gac aac ttc ccc cag gcc ctc atc agc gtc ttc cag gtg ctg acg	2061
	Phe Asp Asn Phe Pro Gln Ala Leu Ile Ser Val Phe Gln Val Leu Thr	
	600 605 610	

	ggt gag gac tgg aac tcc gtg atg tac aac ggg atc atg gcc tac gga	2109
	Gly Glu Asp Trp Asn Ser Val Met Tyr Asn Gly Ile Met Ala Tyr Gly	
	615 620 625	
5	ggc ccg tcc tac ccg ggc gtt ctc gtg tgc atc tat ttc atc atc ctt	2157
	Gly Pro Ser Tyr Pro Gly Val Leu Val Cys Ile Tyr Phe Ile Ile Leu	
	630 635 640	
10	ttt gtc tgc ggc aac tat atc ctg ctg aat gtc ttc ctg gcc atc gcc	2205
	Phe Val Cys Gly Asn Tyr Ile Leu Leu Asn Val Phe Leu Ala Ile Ala	
	645 650 655 660	
15	gtg gac aac ctg gcc gag gcg gag agc ctg act tcc gcg caa aag gcc	2253
	Val Asp Asn Leu Ala Glu Ala Glu Ser Leu Thr Ser Ala Gln Lys Ala	
	665 670 675	
20	aag gcc gag gag agg aaa cgc agg aag atg tcc agg ggt ctc cct gac	2301
	Lys Ala Glu Arg Lys Arg Arg Lys Met Ser Arg Gly Leu Pro Asp	
	680 685 690	
25	aag aca gag gag gag aag tct gtg atg gcc aag aag ctg gag cag aag	2349
	Lys Thr Glu Glu Glu Lys Ser Val Met Ala Lys Lys Leu Glu Gln Lys	
	695 700 705	
	ccc aag ggg gag ggc atc ccc acc act gcc aag ctc aag gtc gat gag	2397
	Pro Lys Gly Glu Gly Ile Pro Thr Thr Ala Lys Leu Lys Val Asp Glu	
	710 715 720	
30	ttc gaa tct aac gtc aac gag gtg aag gac ccc tac cct tca gct gac	2445
	Phe Glu Ser Asn Val Asn Glu Val Lys Asp Pro Tyr Pro Ser Ala Asp	
	725 730 735 740	
35	ttc cca ggg gat gat gag gag gac gag cct gag atc cca gtg agc ccc	2493
	Phe Pro Gly Asp Asp Glu Glu Asp Glu Pro Glu Ile Pro Val Ser Pro	
	745 750 755	
40	cga ccg cgc ccg ctg gcc gag ctg cag ctc aaa gag aag gca gtg ccc	2541
	Arg Pro Arg Pro Leu Ala Glu Leu Gln Leu Lys Glu Lys Ala Val Pro	
	760 765 770	
45	atc ccg gaa gcc agc tcc ttc ttc atc ttc agt ccc acc aat aag gtc	2589
	Ile Pro Glu Ala Ser Ser Phe Phe Ile Phe Ser Pro Thr Asn Lys Val	
	775 780 785	
	cgt gtc ctg tgt cac cgc atc gtc aac gcc acc tgg ttc acc aac ttc	2637
	Arg Val Leu Cys His Arg Ile Val Asn Ala Thr Trp Phe Thr Asn Phe	
	790 795 800	
50	atc ctg ctc ttc atc ctg ctc agc agt gct gcg ctg gcc gcc gag gac	2685
	Ile Leu Leu Phe Ile Leu Leu Ser Ser Ala Ala Leu Ala Ala Glu Asp	
	805 810 815 820	
55	ccc atc cgg gcg gag tcc gtg agg aat cag atc ctt gga tat ttt gat	2733
	Pro Ile Arg Ala Glu Ser Val Arg Asn Gln Ile Leu Gly Tyr Phe Asp	
	825 830 835	
60	att gcc ttc acc tct gtc ttc act gtg gag att gtc ctc aag atg acg	2781
	Ile Ala Phe Thr Ser Val Phe Thr Val Glu Ile Val Leu Lys Met Thr	
	840 845 850	
	acc tac ggc gcc ttc ctg cac aag ggc tcc ttc tgc cgc aac tac ttc	2829
	Thr Tyr Gly Ala Phe Leu His Lys Gly Ser Phe Cys Arg Asn Tyr Phe	
	855 860 865	

	aac atc ctg gac ctg ctg gtg gtg gct gtg tct ctc atc tcc atg ggt	2877
	Asn Ile Leu Asp Leu Leu Val Ala Val Ser Leu Ile Ser Met Gly	
	870 875 880	
5		
	ctc gag tcc agc acc atc tcc gtg gta aag atc ctg aga gtg cta agg	2925
	Leu Glu Ser Ser Thr Ile Ser Val Val Lys Ile Leu Arg Val Leu Arg	
	885 890 895 900	
10		
	gtg ctc cgg ccc ctg cga gcc atc aac aga gcc aaa ggg ttg aag cac	2973
	Val Leu Arg Pro Leu Arg Ala Ile Asn Arg Ala Lys Gly Leu Lys His	
	905 910 915	
15		
	gtg gtc cag tgc gtg ttc gtg gcc atc cgc acc atc ggg aac atc gtc	3021
	Val Val Gln Cys Val Phe Val Ala Ile Arg Thr Ile Gly Asn Ile Val	
	920 925 930	
20		
	ctg gtc acc acg ctc ctg cag ttc atg ttc gcc tgc att ggt gtc cag	3069
	Leu Val Thr Leu Leu Gln Phe Met Phe Ala Cys Ile Gly Val Gln	
	935 940 945	
25		
	ctc ttc aag ggc aag ttc ttc agc tgc aac gac cta tcc aag atg aca	3117
	Leu Phe Lys Gly Lys Phe Phe Ser Cys Asn Asp Leu Ser Lys Met Thr	
	950 955 960	
30		
	gaa gag gag tgc agg ggc tac tac tat gtg tac aag gac ggg gac ccc	3165
	Glu Glu Glu Cys Arg Gly Tyr Tyr Tyr Val Tyr Lys Asp Gly Asp Pro	
	965 970 975 980	
35		
	acg cag atg gag ctg cgc ccc cgc cag tgg ata cac aat gac ttc cac	3213
	Thr Gln Met Glu Leu Arg Pro Arg Gln Trp Ile His Asn Asp Phe His	
	985 990 995	
40		
	ttt gac aac gtg ctg tcg gcc atg atg tcg ctc ttc acg gtg tcc	3258
	Phe Asp Asn Val Leu Ser Ala Met Met Ser Leu Phe Thr Val Ser	
	1000 1005 1010	
45		
	acc ttc gag gga tgg ccc cag ctg ctg tac agg gcc ata gac tcc	3303
	Thr Phe Glu Gly Trp Pro Gln Leu Leu Tyr Arg Ala Ile Asp Ser	
	1015 1020 1025	
50		
	aac gag gag gac atg ggc ccc gtt tac aac aac cga gtg gag atg	3348
	Asn Glu Glu Asp Met Gly Pro Val Tyr Asn Asn Arg Val Glu Met	
	1030 1035 1040	
55		
	gcc atc ttc ttc atc atc tac atc atc ctc att gcc ttc ttc atg	3393
	Ala Ile Phe Phe Ile Ile Tyr Ile Ile Leu Ile Ala Phe Phe Met	
	1045 1050 1055	
60		
	atg aac atc ttt gtg ggc ttt gtc atc gtc acc ttc cag gag cag	3438
	Met Asn Ile Phe Val Gly Phe Val Ile Val Thr Phe Gln Glu Gln	
	1060 1065 1070	
65		
	ggg gag aca gag tac aag aac tgc gag ctg gac aag aac cag cgc	3483
	Gly Glu Thr Glu Tyr Lys Asn Cys Glu Leu Asp Lys Asn Gln Arg	
	1075 1080 1085	
70		
	cag tgt gtg cag tat gcc ctg aag gcc cgc cca ctt cgg tgc tac	3528
	Gln Cys Val Gln Tyr Ala Leu Lys Ala Arg Pro Leu Arg Cys Tyr	
	1090 1095 1100	
75		
	atc ccc aag aac cca tac cag tac cag gtg tgg tac gtc gtc acc	3573
	Ile Pro Lys Asn Pro Tyr Gln Tyr Gln Val Trp Tyr Val Val Thr	
	1105 1110 1115	

	tcc tcc tac ttt gaa tac ctg atg ttc gcc ctc atc atg ctc aac	3618
	Ser Ser Tyr Phe Glu Tyr Leu Met Phe Ala Leu Ile Met Leu Asn	
	1120 1125 1130	
5	acc atc tgc ctg ggc atg cag cac tac cac cag tcg gag gag atg	3663
	Thr Ile Cys Leu Gly Met Gln His Tyr His Gln Ser Glu Glu Met	
	1135 1140 1145	
10	aac cac atc tcg gac atc ctc aac gtg gcc ttc acc atc atc ttc	3708
	Asn His Ile Ser Asp Ile Leu Asn Val Ala Phe Thr Ile Ile Phe	
	1150 1155 1160	
15	aca ctg gag atg atc ctc aag ctc ttg gcg ttc aag gcc agg ggc	3753
	Thr Leu Glu Met Ile Leu Lys Leu Leu Ala Phe Lys Ala Arg Gly	
	1165 1170 1175	
20	tat ttc gga gac ccc tgg aat gtg ttc gac ttc ctg atc gtc atc	3798
	Tyr Phe Gly Asp Pro Trp Asn Val Phe Asp Phe Leu Ile Val Ile	
	1180 1185 1190	
25	ggc agc atc att gac gtc atc ctc agc gag atc gac act ttc ctg	3843
	Gly Ser Ile Ile Asp Val Ile Leu Ser Glu Ile Asp Thr Phe Leu	
	1195 1200 1205	
	gcc tcc agc ggg gga ctg tat tgc ctg ggt ggc ggc tgc ggg aac	3888
	Ala Ser Ser Gly Gly Leu Tyr Cys Leu Gly Gly Gly Cys Gly Asn	
	1210 1215 1220	
30	gtt gac cca gac gag agc gcc cgc atc tcc agt gcc ttc ttc cgc	3933
	Val Asp Pro Asp Glu Ser Ala Arg Ile Ser Ser Ala Phe Phe Arg	
	1225 1230 1235	
35	ctg ttc cgg gtc atg agg ctg atc aag ctg ctg agt cgg gcc gag	3978
	Leu Phe Arg Val Met Arg Leu Ile Lys Leu Leu Ser Arg Ala Glu	
	1240 1245 1250	
40	ggc gtg cgc acg ctg ctg tgg acg ttc atc aag tcc ttc cag gcc	4023
	Gly Val Arg Thr Leu Leu Trp Thr Phe Ile Lys Ser Phe Gln Ala	
	1255 1260 1265	
45	ctg ccc tac gtg gcc ctg ctc atc gtc atg ctg ttc ttc atc tac	4068
	Leu Pro Tyr Val Ala Leu Leu Ile Val Met Leu Phe Phe Ile Tyr	
	1270 1275 1280	
	gcc gtc atc ggc atg cag atg ttt gga aag atc gcc ctg gtg gac	4113
	Ala Val Ile Gly Met Gln Met Phe Gly Lys Ile Ala Leu Val Asp	
	1285 1290 1295	
50	ggg acc cag atc aac cgc aac aac aac ttc cag acc ttc ccg cag	4158
	Gly Thr Gln Ile Asn Arg Asn Asn Asn Phe Gln Thr Phe Pro Gln	
	1300 1305 1310	
55	gcc gtg ctg ctg ctc ttc agg tgt gcg aca ggg gag gcg tgg caa	4203
	Ala Val Leu Leu Leu Phe Arg Cys Ala Thr Gly Glu Ala Trp Gln	
	1315 1320 1325	
60	gag atc ctg ctg gcc tgc agc tac ggg aag ttg tgc gac cca gag	4248
	Glu Ile Leu Leu Ala Cys Ser Tyr Gly Lys Leu Cys Asp Pro Glu	
	1330 1335 1340	
	tca gac tac gcc ccg ggc gag gag tac acg tgt ggc acc aac ttc	4293
	Ser Asp Tyr Ala Pro Gly Glu Glu Tyr Thr Cys Gly Thr Asn Phe	
	1345 1350 1355	

	gcc tac tac tac ttc atc agc ttc tac atg ctc tgc gcc ttc ctg	4338
	Ala Tyr Tyr Tyr Phe Ile Ser Phe Tyr Met Leu Cys Ala Phe Leu	
	1360 1365 1370	
5	atc atc aac ctc ttc gtg gct gtc atc atg gac aac ttt gac tac	4383
	Ile Ile Asn Leu Phe Val Ala Val Ile Met Asp Asn Phe Asp Tyr	
	1375 1380 1385	
10	ctg aca cgc gac tgg tcc atc ctg ggc cct cac cac ctg gac gag	4428
	Leu Thr Arg Asp Trp Ser Ile Leu Gly Pro His His Leu Asp Glu	
	1390 1395 1400	
15	ttc aag gct atc tgg gca gag tat gac cca gag gcc aag ggg cga	4473
	Phe Lys Ala Ile Trp Ala Glu Tyr Asp Pro Glu Ala Lys Gly Arg	
	1405 1410 1415	
20	atc aag cac ctg gac gtg gtg acc ctg ctg aga agg atc cag ccc	4518
	Ile Lys His Leu Asp Val Val Thr Leu Leu Arg Arg Ile Gln Pro	
	1420 1425 1430	
25	cct ctg ggc ttc ggg aag ttc tgt cca cac cgg gtg gcc tgt aag	4563
	Pro Leu Gly Phe Gly Lys Phe Cys Pro His Arg Val Ala Cys Lys	
	1435 1440 1445	
30	cgc ctg gtg ggc atg aac atg ccc ctg aac agt gac ggc acg gtc	4608
	Arg Leu Val Gly Met Asn Met Pro Leu Asn Ser Asp Gly Thr Val	
	1450 1455 1460	
35	acc ttc aat gcc acg ctc ttt gcc ctg gtg cgc acg gcc ctc aag	4653
	Thr Phe Asn Ala Thr Leu Phe Ala Leu Val Arg Thr Ala Leu Lys	
	1465 1470 1475	
40	atc aag aca gaa ggt aac ttt gag cag gcc aac gag gag ctg agg	4698
	Ile Lys Thr Glu Gly Asn Phe Glu Gln Ala Asn Glu Glu Leu Arg	
	1480 1485 1490	
45	gcc atc atc aag aag atc tgg aag aga acc agc atg aag ctg ctg	4743
	Ala Ile Ile Lys Lys Ile Trp Lys Arg Thr Ser Met Lys Leu Leu	
	1495 1500 1505	
50	gac cag gtc atc cct ccc ata gga gat gac gag gtg acc gtg ggg	4788
	Asp Gln Val Ile Pro Pro Ile Gly Asp Asp Glu Val Thr Val Gly	
	1510 1515 1520	
55	aag ttc tac gcc aca ttc ctc atc cag gag cac ttc cgg aag ttc	4833
	Lys Phe Tyr Ala Thr Phe Leu Ile Gln Glu His Phe Arg Lys Phe	
	1525 1530 1535	
60	atg aag cgc cag gag gaa tat tat ggg tat cgg ccc aag aag gac	4878
	Met Lys Arg Gln Glu Glu Tyr Tyr Gly Tyr Arg Pro Lys Lys Asp	
	1540 1545 1550	
65	acc gtg cag atc cag gct ggg ctg cgg acc ata gag gag gag gcg	4923
	Thr Val Gln Ile Gln Ala Gly Leu Arg Thr Ile Glu Glu Glu Ala	
	1555 1560 1565	
70	gcc cct gag atc cgc cgc acc atc tca gga gac ctg acc gcc gag	4968
	Ala Pro Glu Ile Arg Arg Thr Ile Ser Gly Asp Leu Thr Ala Glu	
	1570 1575 1580	
75	gag gag ctg gag aga gcc atg gtg gag gct gcg atg gag gag agg	5013
	Glu Glu Leu Glu Arg Ala Met Val Glu Ala Ala Met Glu Glu Arg	
	1585 1590 1595	

5	atc ttc cgg agg acg gga ggc ctg ttt ggc cag gtg gac acc ttc	5058
	Ile Phe Arg Arg Thr Gly Gly Leu Phe Gly Gln Val Asp Thr Phe	
	1600 1605 1610	
10	ctg gaa agg acc aac tcc ctg ccc ccg gtg atg gcc aac caa aga	5103
	Leu Glu Arg Thr Asn Ser Leu Pro Pro Val Met Ala Asn Gln Arg	
	1615 1620 1625	
15	ccg ctc cag ttt gct gag ata gaa atg gaa gag ctt gag tcg cct	5148
	Pro Leu Gln Phe Ala Glu Ile Glu Met Glu Glu Leu Glu Ser Pro	
	1630 1635 1640	
20	gtc ttc ttg gag gac ttc cct caa gat gca aga acc aac cct ctc	5193
	Val Phe Leu Glu Asp Phe Pro Gln Asp Ala Arg Thr Asn Pro Leu	
	1645 1650 1655	
25	gct cgt gcc aat acc aac aac gcc aat gcc aat gtt gcc tat ggc	5238
	Ala Arg Ala Asn Thr Asn Asn Ala Asn Ala Asn Val Ala Tyr Gly	
	1660 1665 1670	
30	aac agc aac cat agc aac aac cag atg ttt tcc agc gtc cac tgt	5283
	Asn Ser Asn His Ser Asn Asn Gln Met Phe Ser Ser Val His Cys	
	1675 1680 1685	
35	gaa agg gag ttc ccg gga gag gcg gag aca ccg gct gcc gga cga	5328
	Glu Arg Glu Phe Pro Gly Glu Ala Glu Thr Pro Ala Ala Gly Arg	
	1690 1695 1700	
40	gga gcc ctc agc cac tcc cac agg gcc ctg gga cct cac agc aag	5373
	Gly Ala Leu Ser His Ser His Arg Ala Leu Gly Pro His Ser Lys	
	1705 1710 1715	
45	ccc tgt gct gga aaa ctg aat ggg cag ctg gtc cag ccg ggg atg	5418
	Pro Cys Ala Gly Lys Leu Asn Gly Gln Leu Val Gln Pro Gly Met	
	1720 1725 1730	
50	ccc atc aac cag gca cct cct gcc ccc tgc cag cag cct agc acg	5463
	Pro Ile Asn Gln Ala Pro Pro Ala Pro Cys Gln Gln Pro Ser Thr	
	1735 1740 1745	
55	gat ccc cca gag cgc ggg cag agg agg acc tcc ctg aca ggg tct	5508
	Asp Pro Pro Glu Arg Gly Gln Arg Arg Thr Ser Leu Thr Gly Ser	
	1750 1755 1760	
60	ctg caa gac gaa gca ccc cag agg agg agc tcc gag ggg agc acc	5553
	Leu Gln Asp Glu Ala Pro Gln Arg Arg Ser Ser Glu Gly Ser Thr	
	1765 1770 1775	
65	ccc agg cgc ccg gct cct gct aca gct ctg ctg atc caa gag gct	5598
	Pro Arg Arg Pro Ala Pro Ala Thr Ala Leu Leu Ile Gln Glu Ala	
	1780 1785 1790	
70	ctg gtt cga ggg ggc ctg gac acc ttg gca gct gat gct ggc ttc	5643
	Leu Val Arg Gly Gly Leu Asp Thr Leu Ala Ala Asp Ala Gly Phe	
	1795 1800 1805	
75	gtc acg gca aca agc cag gcc ctg gca gac gcc tgt cag atg gaa	5688
	Val Thr Ala Thr Ser Gln Ala Leu Ala Asp Ala Cys Gln Met Glu	
	1810 1815 1820	
80	ccg gag gaa gta gag gtc gca gcc aca gag cta ctg aaa gcg cga	5733
	Pro Glu Glu Val Glu Val Ala Ala Thr Glu Leu Leu Lys Ala Arg	
	1825 1830 1835	

gag tct gtc cag ggc atg gcc agt gtc ccg gga agc ctg agc cgc 5778  
 Glu Ser Val Gln Gly Met Ala Ser Val Pro Gly Ser Leu Ser Arg  
 1840 1845 1850  
 5 agg tcc tcc ctg ggc agc ctt gac cag gtc cag ggc tcc cag gaa 5823  
 Arg Ser Ser Leu Gly Ser Leu Asp Gln Val Gln Gly Ser Gln Glu  
 1855 1860 1865  
 10 acc ctt att cct ccc agg ccg tga tggctgtggt gtccacatga ccaaggcgag 5877  
 Thr Leu Ile Pro Pro Arg Pro  
 1870  
 15 agggacagtg cgtgcagaag ctccagccctg catggcagcc tccctctgtc tcagccctcc 5937  
 tgctgagctg gggcggtctg gaaccgcacc aggaagccag gaggctcccc tggccagcaa 5997  
 gaggcacatgat tctaaagcca tccagaaagg cctgggtcagt gccactcccc agcaggacat 6057  
 20 taaagtctct aggtctgtgg cactgg 6083  
  
 25 <210> 22  
 <211> 1873  
 <212> PRT  
 <213> Oryctolagus cuniculus  
 30 <400> 22  
  
 Met Glu Pro Ser Ser Pro Gln Asp Glu Gly Leu Arg Lys Lys Gln Pro  
 1 5 10 15  
 35 Lys Lys Pro Leu Pro Glu Val Leu Pro Arg Pro Pro Arg Ala Leu Phe  
 20 25 30  
 40 Cys Leu Thr Leu Gln Asn Pro Leu Arg Lys Ala Cys Ile Ser Ile Val  
 35 40 45  
 Glu Trp Lys Pro Phe Glu Thr Ile Ile Leu Leu Thr Ile Phe Ala Asn  
 50 55 60  
 45 Cys Val Ala Leu Ala Val Tyr Leu Pro Met Pro Glu Asp Asp Asn Asn  
 65 70 75 80  
 Ser Leu Asn Leu Gly Leu Glu Lys Leu Glu Tyr Phe Phe Leu Thr Val  
 85 90 95  
 50 Phe Ser Ile Glu Ala Ala Met Lys Ile Ile Ala Tyr Gly Phe Leu Phe  
 100 105 110  
 His Gln Asp Ala Tyr Leu Arg Ser Gly Trp Asn Val Leu Asp Phe Ile  
 115 120 125  
 Ile Val Phe Leu Gly Val Phe Thr Ala Ile Leu Glu Gln Val Asn Val  
 130 135 140  
 60 Ile Gln Ser Asn Thr Ala Pro Met Ser Ser Lys Gly Ala Gly Leu Asp  
 145 150 155 160  
 Val Lys Ala Leu Arg Ala Phe Arg Val Leu Arg Pro Leu Arg Leu Val  
 165 170 175



	Ser	Gly	Val	Pro	Ser	Leu	Gln	Val	Val	Leu	Asn	Ser	Ile	Phe	Lys	Ala	
				180					185					190			
5	Met	Leu	Pro	Leu	Phe	His	Ile	Ala	Leu	Leu	Val	Leu	Phe	Met	Val	Ile	
			195					200					205				
	Ile	Tyr	Ala	Ile	Ile	Gly	Leu	Glu	Leu	Phe	Lys	Gly	Lys	Met	His	Lys	
10		210					215					220					
	Thr	Cys	Tyr	Tyr	Ile	Gly	Thr	Asp	Ile	Val	Ala	Thr	Val	Glu	Asn	Glu	
	225					230					235					240	
15	Lys	Pro	Ser	Pro	Cys	Ala	Arg	Thr	Gly	Ser	Gly	Arg	Pro	Cys	Thr	Ile	
					245					250					255		
	Asn	Gly	Ser	Glu	Cys	Arg	Gly	Gly	Trp	Pro	Gly	Pro	Asn	His	Gly	Ile	
				260					265					270			
20	Thr	His	Phe	Asp	Asn	Phe	Gly	Phe	Ser	Met	Leu	Thr	Val	Tyr	Gln	Cys	
			275					280					285				
	Ile	Thr	Met	Glu	Gly	Trp	Thr	Asp	Val	Leu	Tyr	Trp	Val	Asn	Asp	Ala	
25		290					295					300					
	Ile	Gly	Asn	Glu	Trp	Pro	Trp	Ile	Tyr	Phe	Val	Thr	Leu	Ile	Leu	Leu	
	305					310					315					320	
30	Gly	Ser	Phe	Phe	Ile	Leu	Asn	Leu	Val	Leu	Gly	Val	Leu	Ser	Gly	Glu	
					325					330					335		
	Phe	Thr	Lys	Glu	Arg	Glu	Lys	Ala	Lys	Ser	Arg	Gly	Thr	Phe	Gln	Lys	
				340					345					350			
35	Leu	Arg	Glu	Lys	Gln	Gln	Leu	Glu	Glu	Asp	Leu	Arg	Gly	Tyr	Met	Ser	
			355					360					365				
	Trp	Ile	Thr	Gln	Gly	Glu	Val	Met	Asp	Val	Glu	Asp	Leu	Arg	Glu	Gly	
40		370					375				380						
	Lys	Leu	Ser	Leu	Glu	Glu	Gly	Gly	Ser	Asp	Thr	Glu	Ser	Leu	Tyr	Glu	
	385					390					395					400	
45	Ile	Glu	Gly	Leu	Asn	Lys	Ile	Ile	Gln	Phe	Ile	Arg	His	Trp	Arg	Gln	
				405						410				415			
	Trp	Asn	Arg	Val	Phe	Arg	Trp	Lys	Cys	His	Asp	Leu	Val	Lys	Ser	Arg	
				420					425					430			
50	Val	Phe	Tyr	Trp	Leu	Val	Ile	Leu	Ile	Val	Ala	Leu	Asn	Thr	Leu	Ser	
			435					440					445				
	Ile	Ala	Ser	Glu	His	His	Asn	Gln	Pro	Leu	Trp	Leu	Thr	His	Leu	Gln	
55		450					455				460						
	Asp	Ile	Ala	Asn	Arg	Val	Leu	Leu	Ser	Leu	Phe	Thr	Ile	Glu	Met	Leu	
	465					470					475					480	
60	Leu	Lys	Met	Tyr	Gly	Leu	Gly	Leu	Arg	Gln	Tyr	Phe	Met	Ser	Ile	Phe	
					485					490					495		
	Asn	Arg	Phe	Asp	Cys	Phe	Val	Val	Cys	Ser	Gly	Ile	Leu	Glu	Leu	Leu	
				500					505					510			

	Leu	Val	Glu	Ser	Gly	Ala	Met	Thr	Pro	Leu	Gly	Ile	Ser	Val	Leu	Arg	
			515					520					525				
5	Cys	Ile	Arg	Leu	Leu	Arg	Leu	Phe	Lys	Ile	Thr	Lys	Tyr	Trp	Thr	Ser	
		530					535					540					
	Leu	Ser	Asn	Leu	Val	Ala	Ser	Leu	Leu	Asn	Ser	Ile	Arg	Ser	Ile	Ala	
	545					550					555					560	
10	Ser	Leu	Leu	Leu	Leu	Leu	Phe	Leu	Phe	Ile	Ile	Ile	Phe	Ala	Leu	Leu	
					565					570					575		
	Gly	Met	Gln	Leu	Phe	Gly	Gly	Arg	Tyr	Asp	Phe	Glu	Asp	Thr	Glu	Val	
15				580					585					590			
	Arg	Arg	Ser	Asn	Phe	Asp	Asn	Phe	Pro	Gln	Ala	Leu	Ile	Ser	Val	Phe	
			595					600					605				
20	Gln	Val	Leu	Thr	Gly	Glu	Asp	Trp	Asn	Ser	Val	Met	Tyr	Asn	Gly	Ile	
		610					615					620					
	Met	Ala	Tyr	Gly	Gly	Pro	Ser	Tyr	Pro	Gly	Val	Leu	Val	Cys	Ile	Tyr	
25		625				630					635					640	
	Phe	Ile	Ile	Leu	Phe	Val	Cys	Gly	Asn	Tyr	Ile	Leu	Leu	Asn	Val	Phe	
					645					650					655		
30	Leu	Ala	Ile	Ala	Val	Asp	Asn	Leu	Ala	Glu	Ala	Glu	Ser	Leu	Thr	Ser	
				660					665					670			
	Ala	Gln	Lys	Ala	Lys	Ala	Glu	Glu	Arg	Lys	Arg	Arg	Lys	Met	Ser	Arg	
35			675					680					685				
	Gly	Leu	Pro	Asp	Lys	Thr	Glu	Glu	Glu	Lys	Ser	Val	Met	Ala	Lys	Lys	
		690					695					700					
40	Leu	Glu	Gln	Lys	Pro	Lys	Gly	Glu	Gly	Ile	Pro	Thr	Thr	Ala	Lys	Leu	
	705					710					715					720	
	Lys	Val	Asp	Glu	Phe	Glu	Ser	Asn	Val	Asn	Glu	Val	Lys	Asp	Pro	Tyr	
					725					730				735			
45	Pro	Ser	Ala	Asp	Phe	Pro	Gly	Asp	Asp	Glu	Glu	Asp	Glu	Pro	Glu	Ile	
			740					745						750			
	Pro	Val	Ser	Pro	Arg	Pro	Arg	Pro	Leu	Ala	Glu	Leu	Gln	Leu	Lys	Glu	
50			755					760					765				
	Lys	Ala	Val	Pro	Ile	Pro	Glu	Ala	Ser	Ser	Phe	Phe	Ile	Phe	Ser	Pro	
		770					775					780					
55	Thr	Asn	Lys	Val	Arg	Val	Leu	Cys	His	Arg	Ile	Val	Asn	Ala	Thr	Trp	
	785					790					795					800	
	Phe	Thr	Asn	Phe	Ile	Leu	Leu	Phe	Ile	Leu	Leu	Ser	Ser	Ala	Ala	Leu	
					805					810					815		
60	Ala	Ala	Glu	Asp	Pro	Ile	Arg	Ala	Glu	Ser	Val	Arg	Asn	Gln	Ile	Leu	
				820					825					830			
	Gly	Tyr	Phe	Asp	Ile	Ala	Phe	Thr	Ser	Val	Phe	Thr	Val	Glu	Ile	Val	
			835					840					845				

	Leu	Lys	Met	Thr	Thr	Tyr	Gly	Ala	Phe	Leu	His	Lys	Gly	Ser	Phe	Cys	
	850						855					860					
5	Arg	Asn	Tyr	Phe	Asn	Ile	Leu	Asp	Leu	Leu	Val	Val	Ala	Val	Ser	Leu	
	865					870					875					880	
	Ile	Ser	Met	Gly	Leu	Glu	Ser	Ser	Thr	Ile	Ser	Val	Val	Lys	Ile	Leu	
					885					890					895		
10	Arg	Val	Leu	Arg	Val	Leu	Arg	Pro	Leu	Arg	Ala	Ile	Asn	Arg	Ala	Lys	
				900					905					910			
	Gly	Leu	Lys	His	Val	Val	Gln	Cys	Val	Phe	Val	Ala	Ile	Arg	Thr	Ile	
15			915					920					925				
	Gly	Asn	Ile	Val	Leu	Val	Thr	Leu	Leu	Gln	Phe	Met	Phe	Ala	Cys		
		930					935					940					
20	Ile	Gly	Val	Gln	Leu	Phe	Lys	Gly	Lys	Phe	Phe	Ser	Cys	Asn	Asp	Leu	
	945					950					955					960	
	Ser	Lys	Met	Thr	Glu	Glu	Glu	Cys	Arg	Gly	Tyr	Tyr	Tyr	Val	Tyr	Lys	
					965					970					975		
25																	
	Asp	Gly	Asp	Pro	Thr	Gln	Met	Glu	Leu	Arg	Pro	Arg	Gln	Trp	Ile	His	
				980					985					990			
30	Asn	Asp	Phe	His	Phe	Asp	Asn	Val	Leu	Ser	Ala	Met	Met	Ser	Leu	Phe	
			995					1000						1005			
	Thr	Val	Ser	Thr	Phe	Glu	Gly	Trp	Pro	Gln	Leu	Leu	Tyr	Arg	Ala		
		1010					1015					1020					
35	Ile	Asp	Ser	Asn	Glu	Glu	Asp	Met	Gly	Pro	Val	Tyr	Asn	Asn	Arg		
		1025					1030					1035					
	Val	Glu	Met	Ala	Ile	Phe	Phe	Ile	Ile	Tyr	Ile	Ile	Leu	Ile	Ala		
40		1040					1045					1050					
	Phe	Phe	Met	Met	Asn	Ile	Phe	Val	Gly	Phe	Val	Ile	Val	Thr	Phe		
		1055					1060					1065					
45	Gln	Glu	Gln	Gly	Glu	Thr	Glu	Tyr	Lys	Asn	Cys	Glu	Leu	Asp	Lys		
		1070					1075					1080					
	Asn	Gln	Arg	Gln	Cys	Val	Gln	Tyr	Ala	Leu	Lys	Ala	Arg	Pro	Leu		
		1085					1090					1095					
50	Arg	Cys	Tyr	Ile	Pro	Lys	Asn	Pro	Tyr	Gln	Tyr	Gln	Val	Trp	Tyr		
		1100					1105					1110					
	Val	Val	Thr	Ser	Ser	Tyr	Phe	Glu	Tyr	Leu	Met	Phe	Ala	Leu	Ile		
55		1115					1120					1125					
	Met	Leu	Asn	Thr	Ile	Cys	Leu	Gly	Met	Gln	His	Tyr	His	Gln	Ser		
		1130					1135					1140					
60	Glu	Glu	Met	Asn	His	Ile	Ser	Asp	Ile	Leu	Asn	Val	Ala	Phe	Thr		
		1145					1150					1155					
	Ile	Ile	Phe	Thr	Leu	Glu	Met	Ile	Leu	Lys	Leu	Leu	Ala	Phe	Lys		
		1160					1165					1170					

	Ala	Arg	Gly	Tyr	Phe	Gly	Asp	Pro	Trp	Asn	Val	Phe	Asp	Phe	Leu
	1175						1180					1185			
5	Ile	Val	Ile	Gly	Ser	Ile	Ile	Asp	Val	Ile	Leu	Ser	Glu	Ile	Asp
	1190						1195					1200			
	Thr	Phe	Leu	Ala	Ser	Ser	Gly	Gly	Leu	Tyr	Cys	Leu	Gly	Gly	Gly
	1205						1210					1215			
10	Cys	Gly	Asn	Val	Asp	Pro	Asp	Glu	Ser	Ala	Arg	Ile	Ser	Ser	Ala
	1220						1225					1230			
	Phe	Phe	Arg	Leu	Phe	Arg	Val	Met	Arg	Leu	Ile	Lys	Leu	Leu	Ser
	1235						1240					1245			
	Arg	Ala	Glu	Gly	Val	Arg	Thr	Leu	Leu	Trp	Thr	Phe	Ile	Lys	Ser
	1250						1255					1260			
20	Phe	Gln	Ala	Leu	Pro	Tyr	Val	Ala	Leu	Leu	Ile	Val	Met	Leu	Phe
	1265						1270					1275			
	Phe	Ile	Tyr	Ala	Val	Ile	Gly	Met	Gln	Met	Phe	Gly	Lys	Ile	Ala
	1280						1285					1290			
25															
	Leu	Val	Asp	Gly	Thr	Gln	Ile	Asn	Arg	Asn	Asn	Asn	Phe	Gln	Thr
	1295						1300					1305			
30	Phe	Pro	Gln	Ala	Val	Leu	Leu	Leu	Phe	Arg	Cys	Ala	Thr	Gly	Glu
	1310						1315					1320			
	Ala	Trp	Gln	Glu	Ile	Leu	Leu	Ala	Cys	Ser	Tyr	Gly	Lys	Leu	Cys
	1325						1330					1335			
35	Asp	Pro	Glu	Ser	Asp	Tyr	Ala	Pro	Gly	Glu	Glu	Tyr	Thr	Cys	Gly
	1340						1345					1350			
	Thr	Asn	Phe	Ala	Tyr	Tyr	Tyr	Phe	Ile	Ser	Phe	Tyr	Met	Leu	Cys
	1355						1360					1365			
40															
	Ala	Phe	Leu	Ile	Ile	Asn	Leu	Phe	Val	Ala	Val	Ile	Met	Asp	Asn
	1370						1375					1380			
45	Phe	Asp	Tyr	Leu	Thr	Arg	Asp	Trp	Ser	Ile	Leu	Gly	Pro	His	His
	1385						1390					1395			
	Leu	Asp	Glu	Phe	Lys	Ala	Ile	Trp	Ala	Glu	Tyr	Asp	Pro	Glu	Ala
	1400						1405					1410			
50	Lys	Gly	Arg	Ile	Lys	His	Leu	Asp	Val	Val	Thr	Leu	Leu	Arg	Arg
	1415						1420					1425			
	Ile	Gln	Pro	Pro	Leu	Gly	Phe	Gly	Lys	Phe	Cys	Pro	His	Arg	Val
	1430						1435					1440			
55															
	Ala	Cys	Lys	Arg	Leu	Val	Gly	Met	Asn	Met	Pro	Leu	Asn	Ser	Asp
	1445						1450					1455			
60	Gly	Thr	Val	Thr	Phe	Asn	Ala	Thr	Leu	Phe	Ala	Leu	Val	Arg	Thr
	1460						1465					1470			
	Ala	Leu	Lys	Ile	Lys	Thr	Glu	Gly	Asn	Phe	Glu	Gln	Ala	Asn	Glu
	1475						1480					1485			

	Glu	Leu	Arg	Ala	Ile	Ile	Lys	Lys	Ile	Trp	Lys	Arg	Thr	Ser	Met
	1490						1495					1500			
5	Lys	Leu	Leu	Asp	Gln	Val	Ile	Pro	Pro	Ile	Gly	Asp	Asp	Glu	Val
	1505						1510					1515			
	Thr	Val	Gly	Lys	Phe	Tyr	Ala	Thr	Phe	Leu	Ile	Gln	Glu	His	Phe
	1520						1525					1530			
10	Arg	Lys	Phe	Met	Lys	Arg	Gln	Glu	Glu	Tyr	Tyr	Gly	Tyr	Arg	Pro
	1535						1540					1545			
	Lys	Lys	Asp	Thr	Val	Gln	Ile	Gln	Ala	Gly	Leu	Arg	Thr	Ile	Glu
15	1550						1555					1560			
	Glu	Glu	Ala	Ala	Pro	Glu	Ile	Arg	Arg	Thr	Ile	Ser	Gly	Asp	Leu
	1565						1570					1575			
20	Thr	Ala	Glu	Glu	Glu	Leu	Glu	Arg	Ala	Met	Val	Glu	Ala	Ala	Met
	1580						1585					1590			
	Glu	Glu	Arg	Ile	Phe	Arg	Arg	Thr	Gly	Gly	Leu	Phe	Gly	Gln	Val
	1595						1600					1605			
25															
	Asp	Thr	Phe	Leu	Glu	Arg	Thr	Asn	Ser	Leu	Pro	Pro	Val	Met	Ala
	1610						1615					1620			
30	Asn	Gln	Arg	Pro	Leu	Gln	Phe	Ala	Glu	Ile	Glu	Met	Glu	Glu	Leu
	1625						1630					1635			
	Glu	Ser	Pro	Val	Phe	Leu	Glu	Asp	Phe	Pro	Gln	Asp	Ala	Arg	Thr
	1640						1645					1650			
35															
	Asn	Pro	Leu	Ala	Arg	Ala	Asn	Thr	Asn	Asn	Ala	Asn	Ala	Asn	Val
	1655						1660					1665			
	Ala	Tyr	Gly	Asn	Ser	Asn	His	Ser	Asn	Asn	Gln	Met	Phe	Ser	Ser
40	1670						1675					1680			
	Val	His	Cys	Glu	Arg	Glu	Phe	Pro	Gly	Glu	Ala	Glu	Thr	Pro	Ala
	1685						1690					1695			
45															
	Ala	Gly	Arg	Gly	Ala	Leu	Ser	His	Ser	His	Arg	Ala	Leu	Gly	Pro
	1700						1705					1710			
	His	Ser	Lys	Pro	Cys	Ala	Gly	Lys	Leu	Asn	Gly	Gln	Leu	Val	Gln
50	1715						1720					1725			
	Pro	Gly	Met	Pro	Ile	Asn	Gln	Ala	Pro	Pro	Ala	Pro	Cys	Gln	Gln
	1730						1735					1740			
	Pro	Ser	Thr	Asp	Pro	Pro	Glu	Arg	Gly	Gln	Arg	Arg	Thr	Ser	Leu
55	1745						1750					1755			
	Thr	Gly	Ser	Leu	Gln	Asp	Glu	Ala	Pro	Gln	Arg	Arg	Ser	Ser	Glu
	1760						1765					1770			
60															
	Gly	Ser	Thr	Pro	Arg	Arg	Pro	Ala	Pro	Ala	Thr	Ala	Leu	Leu	Ile
	1775						1780					1785			
	Gln	Glu	Ala	Leu	Val	Arg	Gly	Gly	Leu	Asp	Thr	Leu	Ala	Ala	Asp
	1790						1795					1800			

	Ala Gly Phe Val Thr Ala Thr Ser Gln Ala Leu Ala Asp Ala Cys	
	1805 1810 1815	
5	Gln Met Glu Pro Glu Glu Val Glu Val Ala Ala Thr Glu Leu Leu	
	1820 1825 1830	
	Lys Ala Arg Glu Ser Val Gln Gly Met Ala Ser Val Pro Gly Ser	
	1835 1840 1845	
10	Leu Ser Arg Arg Ser Ser Leu Gly Ser Leu Asp Gln Val Gln Gly	
	1850 1855 1860	
	Ser Gln Glu Thr Leu Ile Pro Pro Arg Pro	
15	1865 1870	
	<210> 23	
	<211> 57	
20	<212> DNA	
	<213> Homo sapiens	
	<220>	
25	<221> partial_cDNA	
	<222> (1)..(57)	
	<400> 23	
30	actttcctgg cctccagcgg gggactgtat tgcctgggtg gaggctgcgg gaacggt	57
	<210> 24	
	<211> 19	
	<212> PRT	
35	<213> Homo sapiens	
	<220>	
	<221> DOMAIN	
40	<222> (1)..(19)	
	<400> 24	
	Thr Phe Leu Ala Ser Ser Gly Gly Leu Tyr Cys Leu Gly Gly Gly Cys	
45	1 5 10 15	
	Gly Asn Val	
50		
	<210> 25	
	<211> 45	
	<212> DNA	
55	<213> Homo sapiens	
	<220>	
	<221> partial_cDNA	
60	<222> (1)..(45)	
	<400> 25	
	ccaactgaaa gtgaaaatgt ccctgtccca actgctacac ctggg	45

```

    <210> 26
    <211> 15
    <212> PRT
5   <213> Homo sapiens

    <220>
    <221> DOMAIN
10  <222> (1) .. (15)

    <400> 26

Pro Thr Glu Ser Glu Asn Val Pro Val Pro Thr Ala Thr Pro Gly
15  1          5          10          15

    <210> 27
    <211> 20
    <212> PRT
20  <213> Homo sapiens

    <400> 27

25  Asn Glu Glu Leu Arg Ala Ile Ile Lys Lys Ile Trp Lys Arg Thr Ser
    1          5          10          15
    Met Lys Leu Leu
        20

30

    <210> 28
    <211> 35
    <212> DNA
    <213> Homo sapiens
35

    <400> 28
    ggccctcagc gaagcggaca actctgaaga gagca 35

40

    <210> 29
    <211> 35
    <212> DNA
    <213> Homo sapiens

45

    <400> 29
    atcctcagtg agatcgacga cccagatgag agtgc 35

```